EFFICIENT RELIABLE GYM MANAGEMENT SYSTEM FOR 6100 MARTIAL ARTS & FITNESS

A Thesis
Presented to
the Faculty of the Department of Information Technology
College of Engineering and Technology
University of St. La Salle

In Partial Fulfilment
of the Requirements for the Degree of
Bachelor of Science in Information Technology

By:

Adams, Emily M.
Alvarez, Trisha Dominyk M.
Hofileña, Meagan
Lago, Rigel Kent H.

Eischied G. Arcenal, MCP, MCTS, NCCP, PHD. TM.
Capstone Adviser

October 7, 2017

Acknowledgment

The completion of this Capstone project could not have been possible without the participation and assistance of the people who have supported us from the very beginning until the end. Their contributions are sincerely appreciated and gratefully acknowledged. Without them this project would never have been possible.

First, we would like to express our sincerest gratitude to our Capstone Advisers, Mr. Loreto Damasco and Mr. Eischeid Arcenal for the guidance all throughout the semesters. And to our panelists, for challenging us to give our best efforts into this Capstone Project. This gave us more opportunities to learn and to explore not only the basics, but also the complexity of the development process.

Second, to our families who supported us and inspire us to do better in life, thank you. To our friends who are our emotional support in times of disappointments and doubts, many thanks to all of you. Also to our classmates who have shared their talents and skills with us and are always willing to help us, we cannot thank you enough for the help and your time.

Third, to the owner, Mr. Adrian Hillana, for allowing us to use Six One Zero Zero Martial Arts and Fitness Gym. Thank you for entertaining our questions and patiently explaining the daily activities and processes of the gym. The information was especially helpful for the completion of this project.

Most of all we want to offer this endeavour to our Almighty God who granted us with knowledge, wisdom, positivity and faith to achieve this important milestone of our life.

Abstract

1 On 1 Boxing Gym, previously owned by Bryan Encarguez and now owned by Adrian Hillana, is a gym that caters to their clients' health and fitness needs through the approach of martial arts. These martial arts include boxing, Muay Thai and Jiu Jitsu. Trained coaches are provided for each art. The gym is located in 10th Street Lacson, Bacolod City.

The general objective of this project is the improvement in the overall management and storage of information of 1 On 1 Boxing Gym using an efficient system that provides reliability for both clients and management.

The project involves membership registration, recording of sales of services, attendance monitoring of members and customers, scheduling event bookings, and inventory of gym equipment. Information is limited to the selected gym operations. Inventory details such as suppliers, price, and delivery, and online and credit card payment are excluded.

A waterfall process model is used for the project's methodology. This model features sequential phases, which are requirements gathering and analysis, design, implementation, testing, and maintenance, in achieving completion. Due to the client's requirements being fixed and clear and due its systematic approach, the waterfall process model is recommended.

Based on the system evaluation, the overall mean score of both web and mobile application of the system from alpha and beta test is 4.83 interpreted as Highly Acceptable. Four different users, namely: Administrator, Cashier, Coach and Customer,

use the web application. The mobile application is utilized by the Coach and Customer. The said results shows that the Gym Management System for 6100 Martial Arts and Fitness is efficient and reliable.

Keywords: Efficient, Reliable, Inventory, Attendance, Sales

Table of Contents

List of Figures

Website

Client Module

Cashier Module

Coach Module Mobile

1.0 Research Description

Technology is substantial for the business operations of 6100 Martial Arts & Fitness. The daily processes of the gym greatly involve the input and storage of data, which are the various records, and the output of information. It is important that the gym properly handles all the data and information.

6100 Martial Arts & Fitness is a gym specializing in Boxing and other martial arts, specifically Muay Thai and Jiu Jitsu. It is located in 10th Street Lacson, Bacolod City. The gym uses these specialities for the purpose of health and fitness, recreational sports, or training. Currently, the gym's technologies consist of pen and paper for records, a logbook for attendance, and a desktop computer with Microsoft Office.

There are eight coaches provided for customers to assist in the different routines. The receptionist manages the attendance and reports.

1.1 Overview of Current State of Technology

6100 Martial Arts & Fitness utilizes manual management of its records. These records contain the membership details.

Application for membership is done by filling up an application form and paying for the services chosen. This application form is stored and used as record of a member.

In monitoring the attendance of members in the gym, a logbook is used as reference of a customer's daily usage of the gym.

The services sold daily are noted down in a separate logbook. Copy of receipts issued is kept for transaction records.

The events booked by a customer are written in a separate form for event scheduling.

Inventory of gym equipment is stored in Excel files.

All of the records, except the inventory record, for the above mentioned operations are kept in a filing cabinet. The information gathered presents the researchers the idea to improve the gym's operations with the deployment of an automated system.

1.2 Research Objectives

1.2.1 General Objective

To improve the overall management and storage of information of 6100 Martial Arts & Fitness using an efficient system that provides reliability for both clients and management.

1.2.2 Specific Objectives

- To collect information related to the management of equipment and customer information.
- To conduct an interview with staff in order to identify the problems the business encounters.
- To observe how the different transaction, especially those that take time, and determine the best possible solution for improvement.
- To gather sample reports and receipts that would help develop an efficient gym management system.

- To deploy an efficient and dynamic system used by the business for its management and information storage.

1.3 Scope and Limitations

The research is for the improvement of operations and management in 6100 Martial Arts & Fitness. The study focuses on the membership application and management, monitoring the attendance and progress of clients, inventory of gym equipment, recording of service sales, and event bookings for the gym.

Research information is limited to the selected gym operations mentioned above. Inventory equipment details such as suppliers, price, and delivery details are not included. Online and credit card payment for the gym services are not included. Monitoring of progress is limited to regular clients of the gym and not clients undergoing competition training.

1.4 Significance of the Study

The study is beneficial to the following recipients:

The **6100 Martial Arts & Fitness** may recognize the information on the areas that need to be improved in the process of managing membership, event booking, monitoring attendance of members, inventory of equipment and sales of services in order to provide better services for the clients.

The study provides opportunities to the **researchers** to improve in skills such as communication, analytical and critical thinking, gathering

important information needed for the proposed system and designing of Graphical User Interface.

1.5 Research Methodology

1.5.1 Waterfall Process Model

The Waterfall Model is the oldest and the most well-known SDLC model. This model is widely used in government projects and in many major companies. The special feature of this model is its sequential steps. It goes downward through the phases of requirement gathering and analysis, design, implementation, testing and maintenance. (Alshamrani and Bahattab 2015)

This process model is highly recommended due to its systematic and sequential approach towards the improvement of 6100 Martial Arts & Fitness management. This model is also used because the requirements of the client are clear and fixed. The phases of this model are:

1.5.1.1 Requirements Gathering and Analysis

The group went to 6100 Martial Arts & Fitness to collect information regarding how the different transactions works and problems and issues that the management encountered with their current system. Sample receipts and reports were gathered. The group collected information how client works and how data flows during the operation of the business. Gathered information was analyzed to

identify the problems and formulating ideas were done in this phase.

1.5.1.2 Design

Gathered information from the previous phase was evaluated and proper implementation is formulated. Entity Relationship Diagram was created for database scheme. Context Diagram was constructed to explain the data input and output flow in the system and its limitations. Data Flow Diagram was created to classify the sources and recipients of the data from the system. Designing of GUI was done in the phase to help the client understand the system.

1.5.1.3 Implementation

In this phase, the group designed a web and mobile application based on the data flow diagram and context diagram created.

1.5.1.4 Testing

This phase, the group did alpha and beta testing to get feedback about the software solutions that have been developed to meet the requirements. Bugs and system glitches are found and fixed.

1.5.1.5 Maintenance

After the software is already released, the group plans to keep in touch with the management of 6100 Martial Arts

& Fitness in case they need some modifications, improvements and refinement accordingly.

1.5.2 Other Traditional Methodologies

1.5.2.1 Interview

The researchers conducted an interview with the owner and employees of 6100 Martial Arts & Fitness. There are various questions regarding the operations of the gym focusing on the way of how the management of membership's application and events booking schedule, monitoring the attendance of members, inventory of gym equipment, recording of service sales. The interview helped the researchers to understand the flow of the data in the gym's operations.

1.5.2.2 Observations

The researchers observed that before entering the gym, the customers are needed to write their name in a logbook and membership applications are kept in a cabinet together with the documents used for transactions. The manual recording of all transactions were observed by the researchers including the recording and generating receipts of the service sales.

2.0 Review of Related Literatures

This section discusses the features, capabilities and limitations of existing work or system that are related or similar to the project.

2.1 On Inventory System

Managing the gym's inventory of equipment must be done in a systematic way. This is to ensure efficiency and accuracy when handling and accounting the variety of equipment present in the gym.

FLLMMCIS: A Web-Based Database-Driven Inventory System by Russel Pierce (2014) facilitates the operation of the Department of Foreign Languages and Literatures Multimedia Center Library. Its primary goal of the library is to provide lending services of multimedia assets to student, faculty, and staff. The system facilitates lending by tracking the status of the library inventory and enables users to perform business activities. The system is used to maintain an accurate inventory with the use of a website and database. The web site consists of a directory structure, which is in place on the web server, containing ColdFusion files and graphics while the MySQL database exists in complete functioning form on the MySQL server. Pages featured in the system include the viewing item details page, which provides a complete description of a single item, from this page users can select to edit or delete the item they are viewing. It also features general database access wherein any table in the tables can be viewed or manipulated through a standardized interface. Reports are provided through the statistics page. This provides information on the current statues of the inventory and historical usage data.

The system employed many different technologies and standards such as ColdFusion for creating dynamic web pages, HTML, CSS, JavaScript to extend interaction between users and web pages, MySQL for database management, Lightweight Directory Access Protocol (LDAP) for network systems.

The researchers recommend a good database design as it is crucial for creating systems that can accurately model business semantics. The employment of reuse for development is recommended. If not employed, the system would contain large amounts of redundant code resulting in a system difficult to maintain.

2.2 On Gym Management Information System

YMCA Gym wants software where they could easily input the details of the clients who want to be members, a system that manages and monitors clients who enters or exits the gym. The Gym Management Information System by Jeric Landrito (2015) focuses on properly managing client records, avoiding data redundancy, and avoiding data leakage on their members and walk-in clients.

Gym Management Information System integrates member management that helps recording the client data and time logs, to easily acknowledge the members and the non-members of the gym. The system consists of login page where the admin can access the records of customers. Timekeeping of customers and registration of members comprises its functionalities. The researchers decided to use Visual Basic for creating the system.

2.3 On Event Booking System

Keeping track of the gym's events booking schedules is essential in order to avoid future conflicts of duplicate or simultaneous reservations. A calendar contains an overview of the schedules wherein the gym has an event. This is also used for the convenience in managing and overseeing the events of the gym.

A web-based reservation system done by Alba, Caluyo and Espada (2014), states that online reservation is one of the latest techniques in the arena of internet that allows users to reserve rooms, function halls, or cottages according to their tastes and preferences and can directly answer accommodation availability inquiries. The management chosen by the group used a manual reservation system, but due to rapid growth of the management and lack of manpower services, the developers proposed to upgrade the manual reservation system to an online reservation system to aid the management avoid mistakes, conflicts, stress, strain, and time of both the clients and the staff. The programming languages JavaScript, JQuery, Ajax, APACHE, HTML, PHP, and MySql were used to create this web-based system.

The Online Hotel Reservation System For Bacolod Pavillion Hotel by Go, et. al. (2014), enables people to book a reservation online using a website. In relation to online reservation, this is a feature that enhances user experience and generates more customers due to its accessibility and efficiency. This online reservation is integrated into the gym's reservation system.

This study aims to reduce the issues of the Pavillion Hotel's management by developing an online hotel reservation system. This system features a reservation details page where the user can view booking details and confirm their booking. An events and promotions page is also featured where one can view the hotel's events for a specific date. The programming languages used are HTML, PHP, and SQL, specifically to create the website and database.

2.4 On Attendance System

Attendance is essential for the gym's management in order to keep track of a customer's activities and daily sum of customers. This significantly aids in providing on overview of the gym's customer flow.

The Online Hostel Management System Using Barcode Scanner by Chetan Kaushik (2014) has been proposed and developed to avoid the tedious manual work due to Gautam Buddha University's Hostels lack of an automated system. The attendants and hostel management staff face problems in recording and managing attendance of their students due to the rapidly increasing number hostels resulting to increased number of students. The system keeps the students' attendance records. Student's personal information, hostel attendance, and time and date of open and closed entries are stored. The automation of the system also helps in the easy management of the data by avoiding inconsistency and redundancy in the storage of data and also helps parents keep track of student's activities through the online website. Functionalities of this system include reservation and checking availability of rooms, a cashier system that displays transactions and reservations, and a

system administrator for updating commodities, generating sales reports, and managing system users.

The user interface was designed using Microsoft Visual Studio 2010 programming language and the database was developed using Microsoft SQL database.

2.5 On Point of Sales System

Sher'z Restobar employs manual methods in the restaurant's daily transactions. In relevance to the recording of these transactions, the gym must efficiently and accurately record their daily transactions. This provides an overview of the gym's daily, monthly and yearly business flow. A web-based point-of-sales would provide easier access for the gym's management at any given time or place.

An efficient Web-Based Point-Of-Sales With Mobile Menu-Ordering System And Event-Scheduler For Sher'z Restobar (2015) developed by Chua, Espena, Jacinto and Providencia, is used as reference in relation to the use of the gym's point-of-sales of the services offered. This system integrates the use of web and mobile application for the ordering, reservation and payment transactions of Sher'z Restobar. Its objectives include to keep the manager updated of the daily transactions with sales reports and to provide access to these record easily with the use of a search function. The process of reservation, ordering and payment are done online making it more efficient and accessible as long as there is internet connection. The system also includes transaction reports page, displaying the transactions of a specific

date, and a monthly sales graph page, displaying the monthly sales of the restobar in graphical representation.

As the system is web-based, it was designed with the use of PHP, HTML, CSS, JQUERY, JAVA, and SQL.

These different studies contribute to the development of the proposed system. The system comprises of different functions such as monitoring inventory, using point-of-sales, monitoring attendance with use of barcode, booking events and its core function gym management. Similarities found are used as basis for these system functions. The system greatly benefits from the research information found in these related studies.

3.0 Theoretical Framework

3.1 Entity Relationship Diagram (ERD)

An Entity Relationship Diagram (Figure 37) is a graphical representation of an information system that shows the different relationships between the entities, whether objects, places, concepts or events, within that system.

A class belongs to only one category while a category can have as many numbers of classes. A staff may teach more than one class while a class may have multiple numbers of staff teaching. The staff manages multiple transactions done by a customer. A customer can transact as many transactions but a transaction can only be done by one customer at a time. Transaction may generate multiple records while a record must be generated by only one transaction. A transaction has multiple transaction items but each transaction item belongs to only one transaction. A transaction item can only have one membership type, one promo, one event, one class, and can avail one promo. A membership is categorized into different membership types. A customer can own one membership at a time. A customer can log in the logbook more than once and a logbook entry can only be from one customer at a time. Progress is generated per log in the logbook by the customer. The progress contains a workout plan. A workout plan contains more than one number of activities and these activities can be found in multiple workout plans. Each workout plan is created by one staff while a staff may create many workout plans. The staff monitors multiple equipment. Equipment is

monitored by one staff and each belongs to one category. A category may have any number of equipment.

The group used the ERD to see and understand the relationships of the entities.

3.2 Data Flow Diagram

A Data Flow Diagram (DFD) shows the data input and output flows in the system. The DFD is used to create the overview of the system, such as its sources, recipients and limitations. The diagram illustrates the data processing.

3.2.1 Level 0 Diagram

The level 0 diagram (Figure 36) has 7 processes. The first one is Validate Login process where users of the system, like admin, cashier and coach, must log in using their login details in order to access the system.

The second process is Manage Gym Services, the admin inputs the data needed for the operation of the gym. These operations include services like membership types, event bookings, class lists, staff records, and the inventory of equipment. List of services is accessed by the cashier and admin.

Manage Sales, the third process, wherein the cashier enters client transaction details and the system generates receipt information.

Fourth process is Manage Workout Routines in which the coach creates the workout routine with specific list of activities to be used by a client.

Serve Client process is where clients log in to access their profile. The client inputs weight and height for BMI details. The system outputs a client workout routine provided by the coach assigned. The coach enters progress details as the client does their workout routine. Both client and coach receive progress reports after a client finishes a workout routine. Clients may also register online for a membership and generate a client record.

The sixth process is Manage Events in which the admin may schedule events on available dates.

Record Attendance is the last process in which the admin receives attendance reports. Both staff and client log details are entered by the cashier in their respective staff logbook and client logbook for each visit and use of the gym.

3.2.2 Context Diagram Level

The context diagram (Figure 35) is composed of four entities – the Admin, Cashier, Coach and Client. The admin logs in to gain access to the system and then inputs staff record details, inventory list details, services offered, event details, and prints various reports like sales report, event booking reports, and client and staff attendance report.

The cashier logs in to gain access to the system and receives the service list information, generated client transaction receipts, client profiles, events information and enters staff attendance and client attendance log information. The cashier also confirms the payment for client membership registration and gym service transactions.

After log in, the coach both receives and inputs the workout routine list for each client and their progress details. The coach obtains the progress and attendance reports of the client.

The client accesses their profile information after log-in. The client stores their information and may register for membership. Clients also receive the workout routine given by their assigned coach, and their progress reports, BMI reports and attendance logs information.

3.3 Hypertext Preprocessor

Hypertext Preprocessor or “PHP” is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML.

The group used PHP as programming language in developing the whole system along with HTML. PHP is easy to use compared to most solutions like e.g. Java, PHP doesn't need to be compiled, so it's just to write the script and then upload it to the server and then update the browser. PHP mostly has built-in support for the most popular databases like e.g. MySQL, that means it

is easy to start using databases, no additional drivers needs to be installed, just to use the mysql-functions.

3.4 Scripting Language

According to JBIET, scripting is the action of writing scripts using a scripting language, distinguishing neatly between programs, which are written in conventional programming language such as C, C++, Java, and scripts, which are written using a different kind of language.

The group used this language because it is very easy to learn. No setup is required; it's built-in the web browser. JavaScript is used in web browsers (Angular, React), server-side (Node), mobiles, desktops, games, etc. The process can be sped up significantly by duplicating that validation using JavaScript and by attaching much of the JavaScript validation to the individual fields. That way the person filling out the form who has JavaScript enabled has immediate feedback.

3.5 Design Consideration

3.5.1 Graphical User Interface

According to The MathWorks, a graphical user interface (GUI) is a pictorial interface to a program. A good GUI can make programs easier to use by providing them with a consistent appearance and with intuitive controls like pushbuttons, list boxes, sliders, menus, and so forth. The GUI should behave in an understandable and predictable manner, so that a user knows what to expect when he or she performs an action.

The group used GUI to provide interactions between the system and the user.

4.0 The XYZ System

4.1 System Overview

The current system of 6100 Martial Arts & Fitness begins with the application form that will be filled up for membership. Logbook is used to record customers who use the gym daily. Services sold daily are written down in another logbook and issued receipts are used to record transactions. Event booking information is noted down in separate form for event scheduling. Inventory of equipment is stored in Excel files. All the records of the operations are kept in a filing cabinet, while the inventory record is saved in Excel file. Overall, the management's current system utilized manual management of their records.

With the current technology used by the 6100 Martial Arts & Fitness, a significant number of problems were encountered such as the membership files are easily mixed up or got lost with other files. Duplication of data is unavoidable. Retrieval, locating and monitoring of data are extremely difficult and consumes too much time. Data entry is prone to error and the low security of the system which may lead to unauthorized modification or access of customer's data.

The system focuses on managing gym equipment, membership application, workout plans, coach entry of workout plans and activities, barcode scanning, and event scheduling. The admin manages the gym

equipment monthly for maintenance. A registration is filled out if a client wishes to become a member. The coach handles the workout routines of each client and assigns a list of activities (along with the duration of each activity and number of repetitions/sets) the client should perform in a session. A customer with membership who uses the gym must scan their ID for attendance. When scheduling or booking an event, the client fills up a form then reserves a date. The admin checks if the date is open and available and then enters the event information into the system.

4.2 System Objectives

4.2.1 General Objectives

To develop an efficient and reliable gym management system that allows management to store, and to organize query and process data.

4.2.2 Specific Objectives

- To create a module that allows users to manage gym operations with regards to; a.) Customer servicing b.) Workout routines c.) Progress report d.) Attendance
- To develop an event scheduler that process events booked by customers.
- To implement a mobile application that allows the coaches and the customers with an electronic membership datasheet to access gym workout routines.

- To integrate the use of a Barcode device that monitors gym customer attendance.
- To generate a graphical daily, weekly and monthly statistical reports for progress, attendance, and sales.

4.3 System Scope and Limitations

The system is for the development of an efficient and reliable gym management system for 6100 Martial Arts & Fitness. The system focuses on management of member's information, such as workout plans given by his/her coach, progress reports, payment records and attendance in the gym. The system generates daily, weekly and monthly sales of services and manages the maintenance of gym equipment. The system schedules the events booked by the customer.

The system doesn't include online and credit card payment of services. Inventory equipment details such as suppliers, price, and delivery details are not included. Monitoring of progress is limited to regular clients of the gym and not clients undergoing competition training. The mobile application operates on a minimum SDK of Android 4.1 (Jellybean).

4.4 System Functions

4.4.1 Website

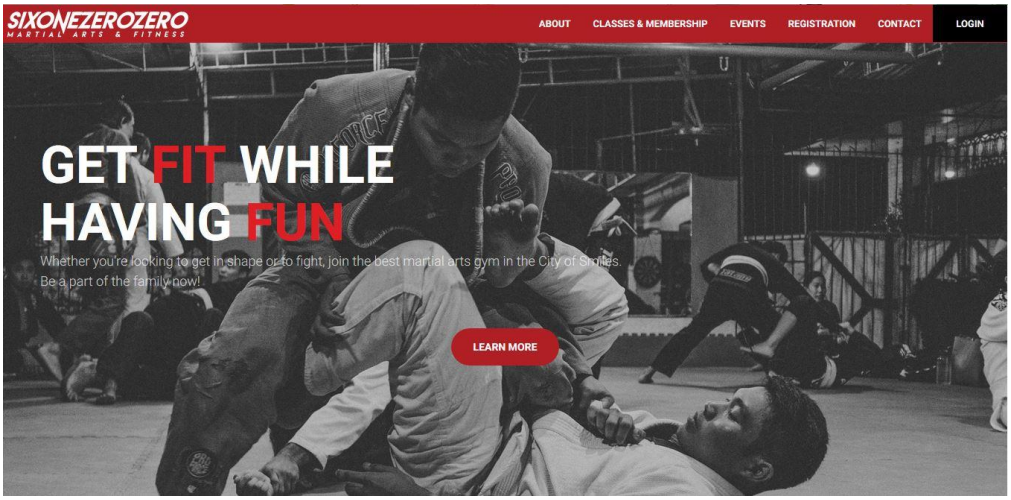


Figure 1. Home Page

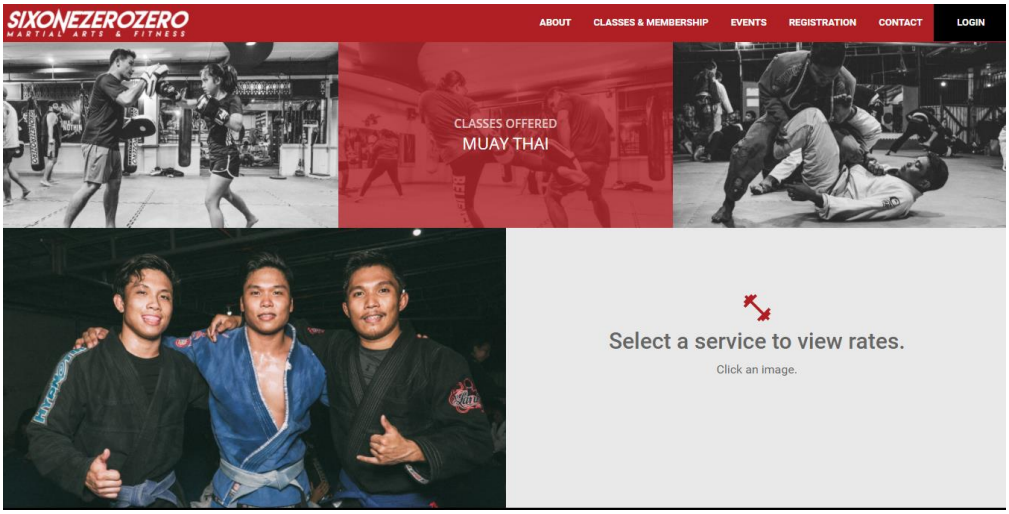


Figure 2. Classes and Membership Page

This section features a modal popup where you can view the rates of different classes offered by the gym with video tips.

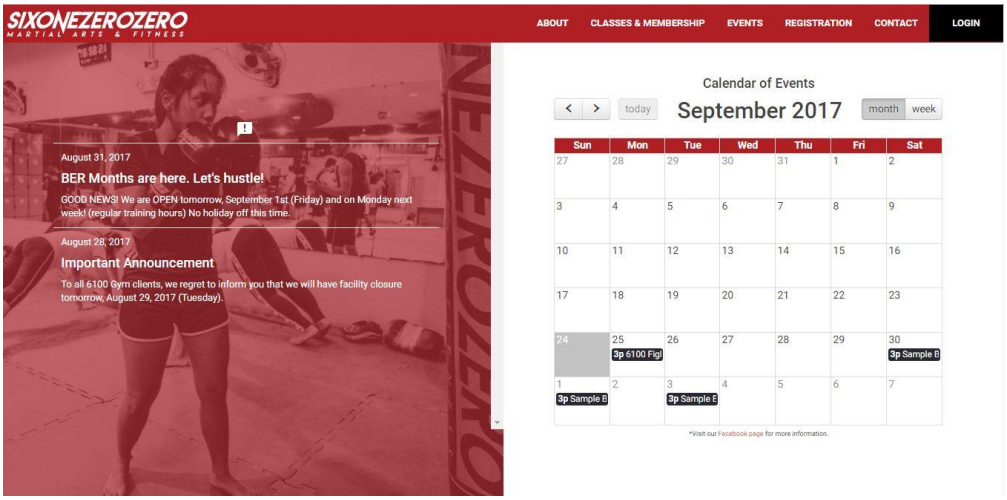


Figure 3. Events and Announcement Page

Page where you can view the announcements and a calendar of events scheduled monthly.

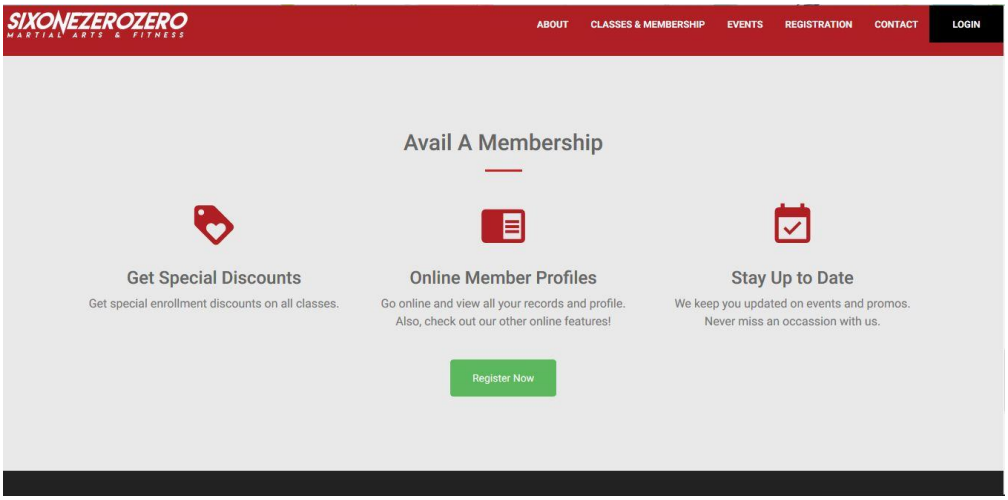


Figure 4. Registration Page

A section where clients can register for gym membership.

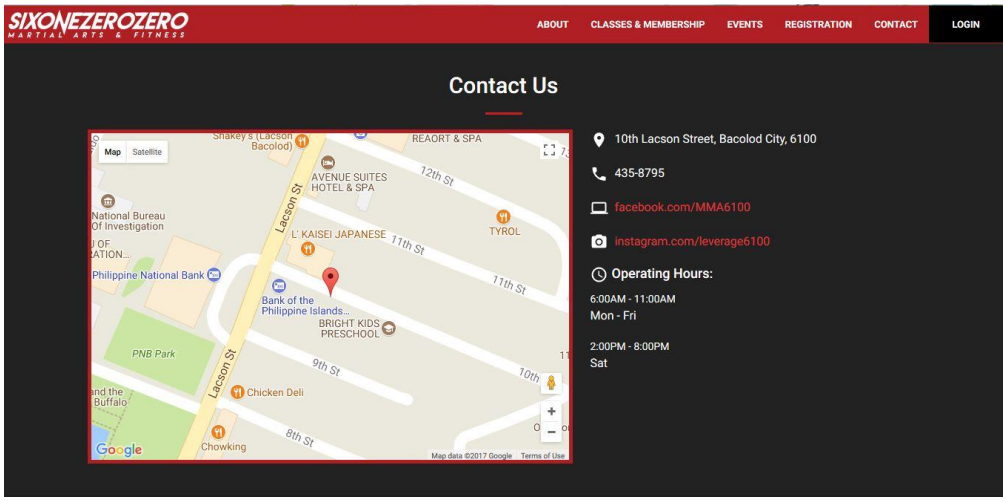


Figure 5. Contact Us Page

Contact details, such as address, telephone numbers and operating hours of the gym is displayed.

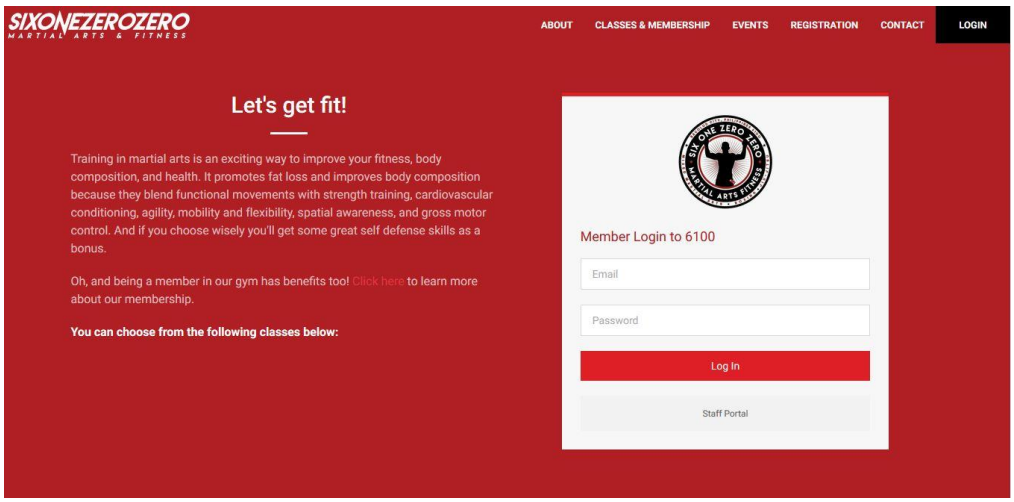


Figure 6. Login Page

Gym clients or staff can login using their email and password.

4.4.2 Client Module

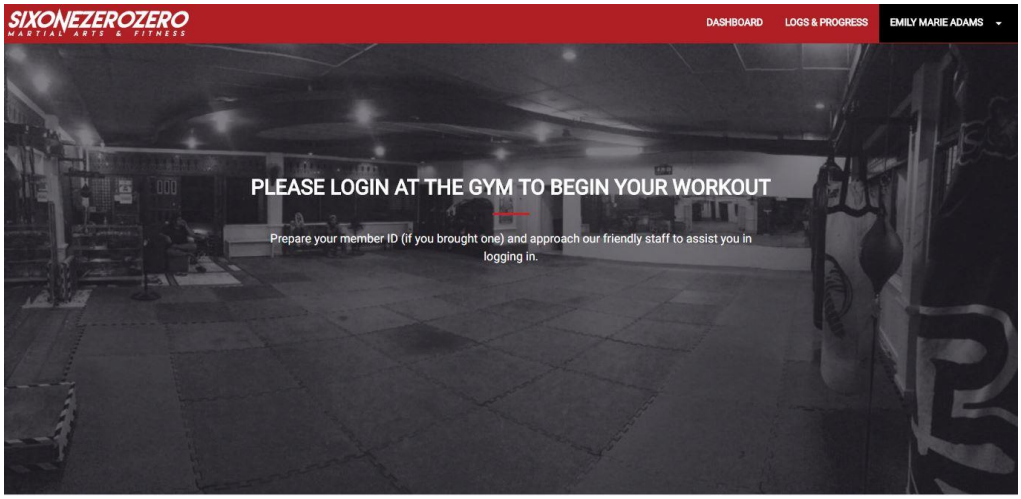


Figure 7. Client Dashboard Tab (Inactive)

The landing page after logging in, a client must physically be present and log in at the gym to view their workout.

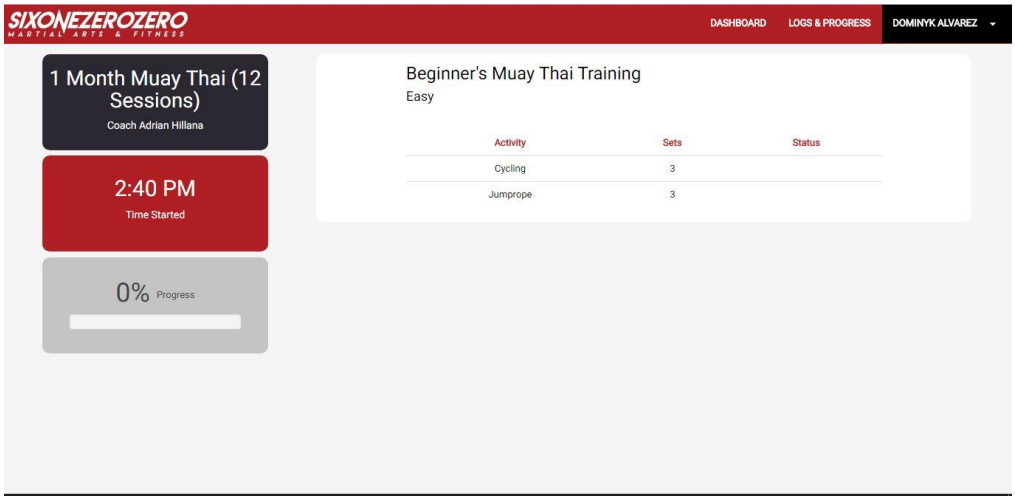


Figure 8. Client Dashboard Tab (Active)

Once logged in, a table of activities under a workout routine is displayed. This is given by the coach of the client's current class being taken.

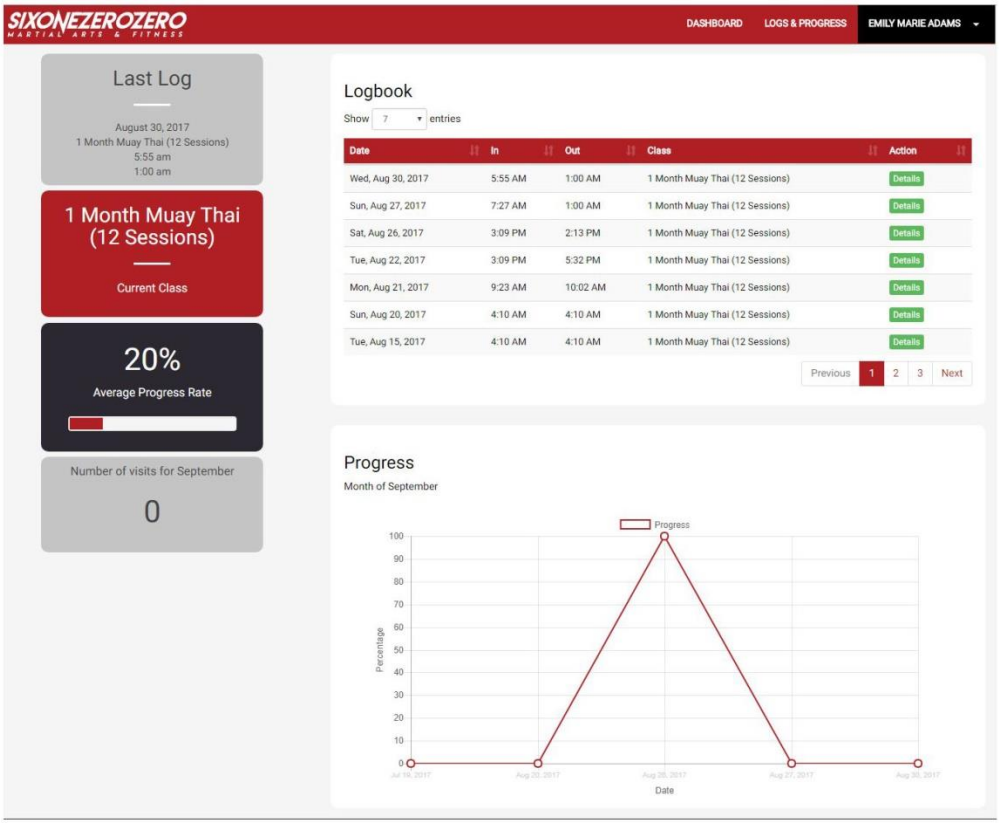


Figure 9. Logs & Progress Tab

In the logs and progress tab, the client can view the logs which show the date and time he/she visited the gym. A line graph shows the monthly completion rate of each client's routines per gym visit. Statistics such as number of visits and average progress rate is also shown.

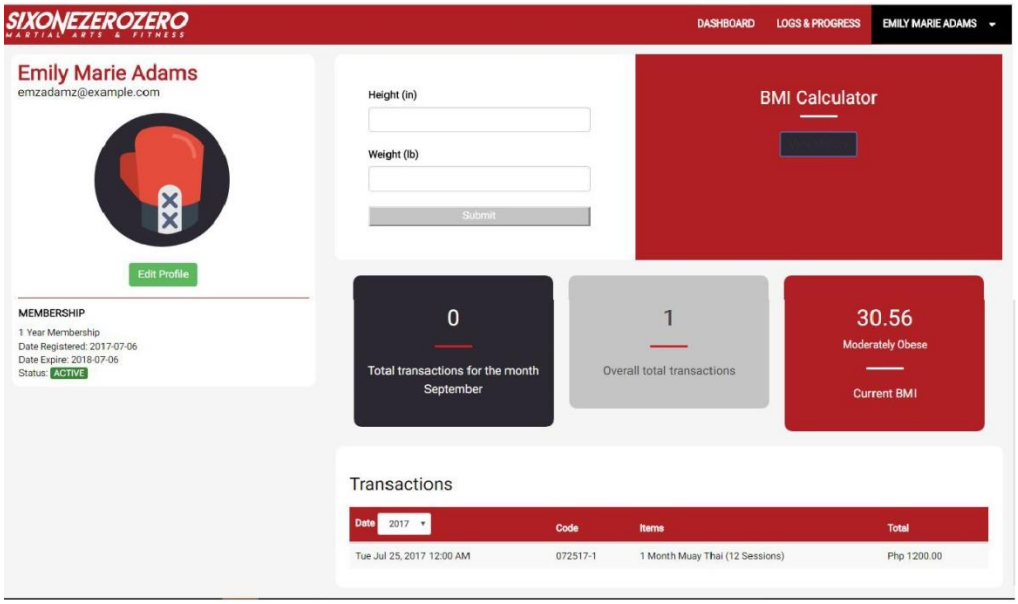


Figure 10. Client Profile Tab

In the profile tab, clients can view and update their personal information and view their current membership and classes, and calculate for BMI. A client may also view all their transactions per month in tabular form.

4.4.3 Cashier Module

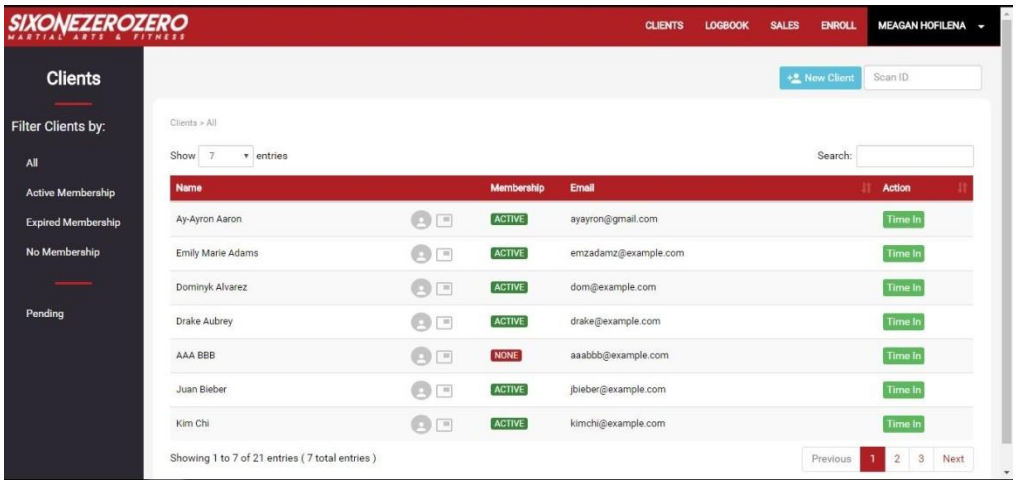


Figure 11. Clients Tab

In the clients tab, the cashier can add, search and view the gym's clients then view their profile and status, or time them in for attendance.

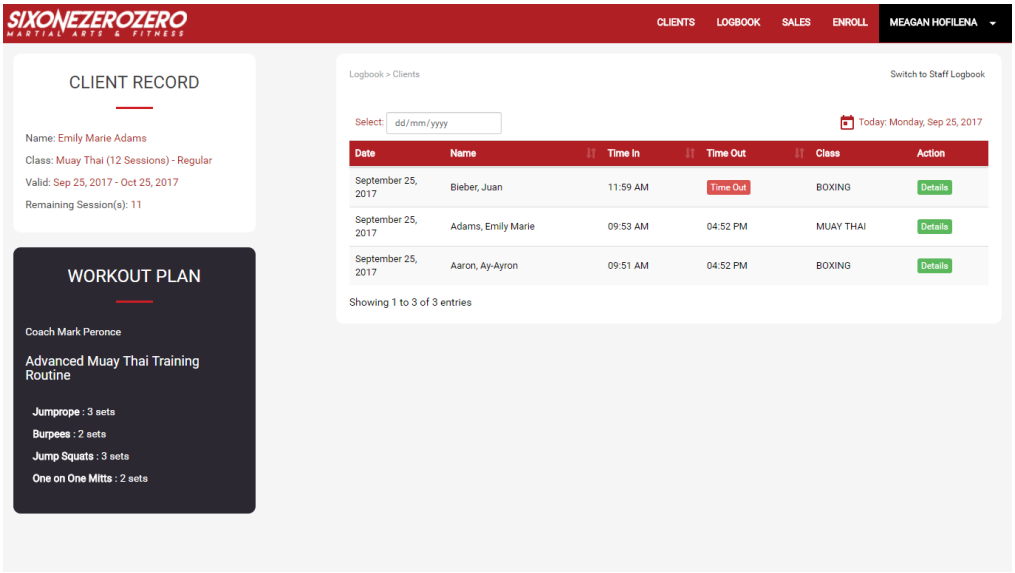


Figure 12. Logbook Tab

The cashier can view all the clients who went in and out in the gym of a certain date. When an ID is scanned, a client's workout plan and log summary is shown.

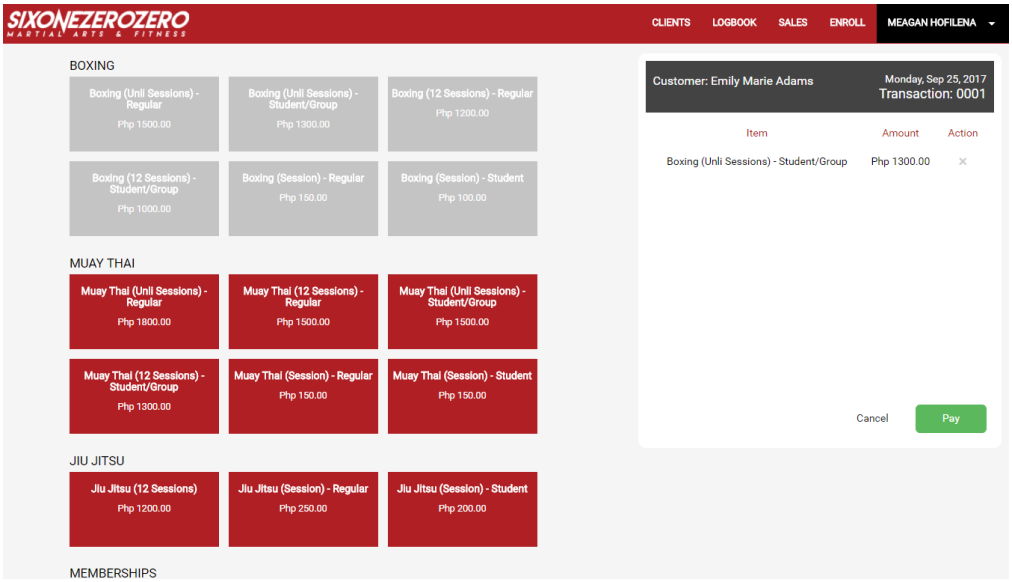


Figure 13. Enroll Tab

In the enroll tab, cashier can enroll a client in a class. The cashier may search the name of the client, scan their ID, or add a new client.

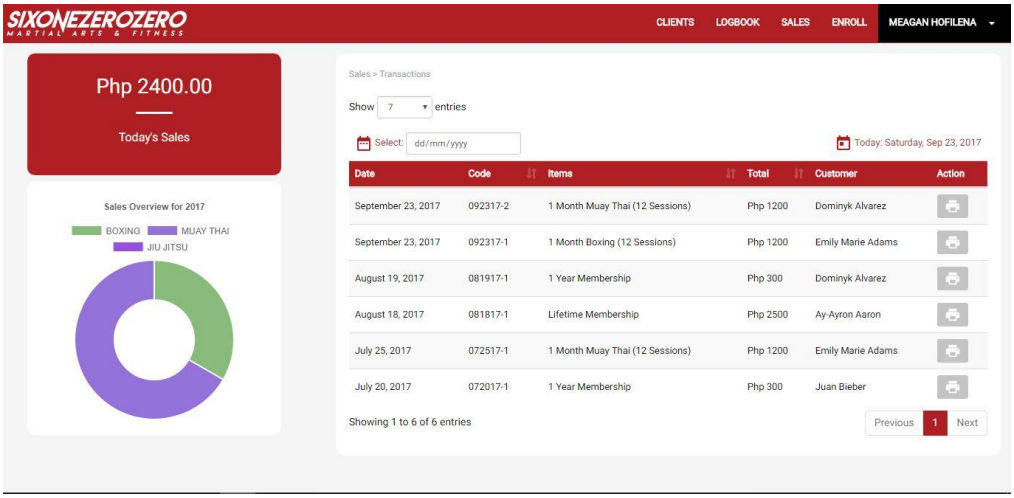


Figure 14. Sales Tab

In the sales tab, cashier can view the transaction made and the total sales daily.

4.4.4 Admin Module

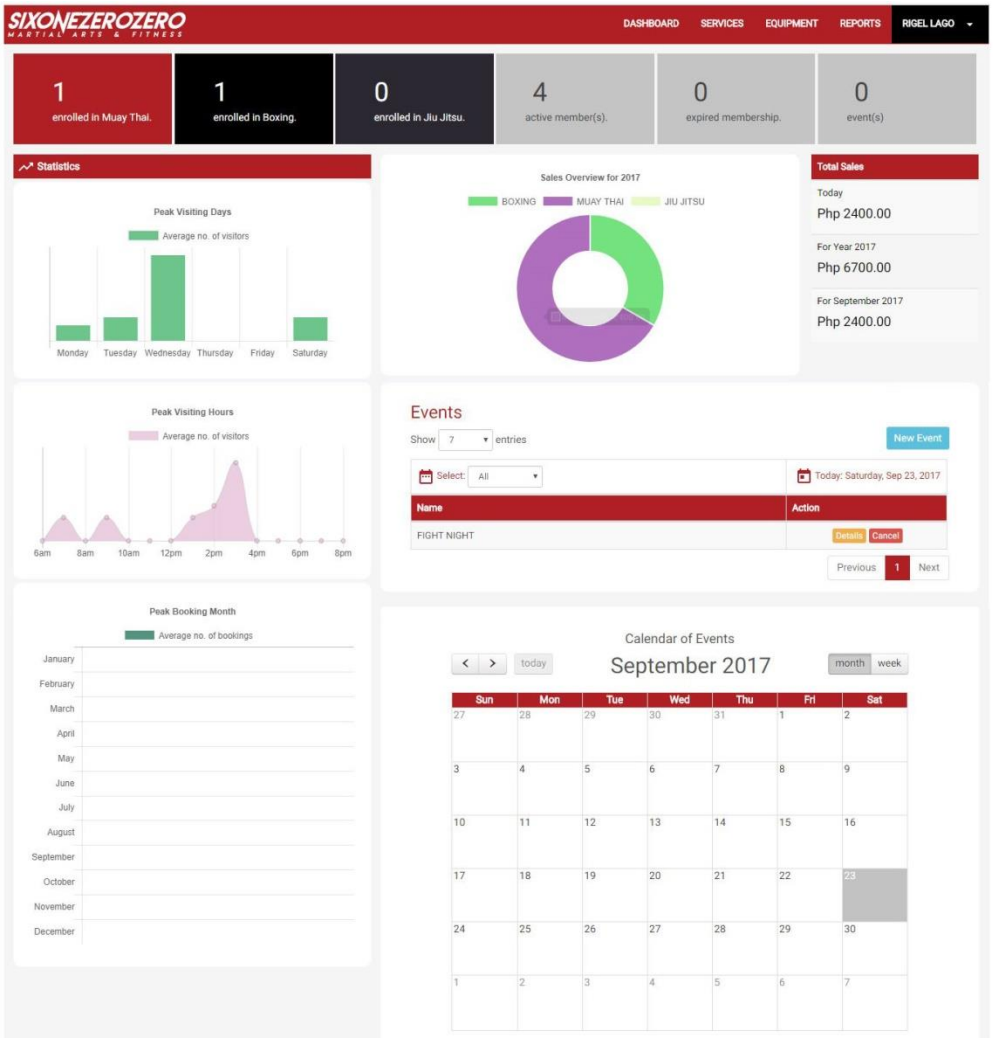


Figure 15. Admin Dashboard

Considered as the main page for the admin module. This contains an overview with statistics for members, bookings and sales accompanied by line graphs for each. A calendar of events is displayed, showing scheduled events per

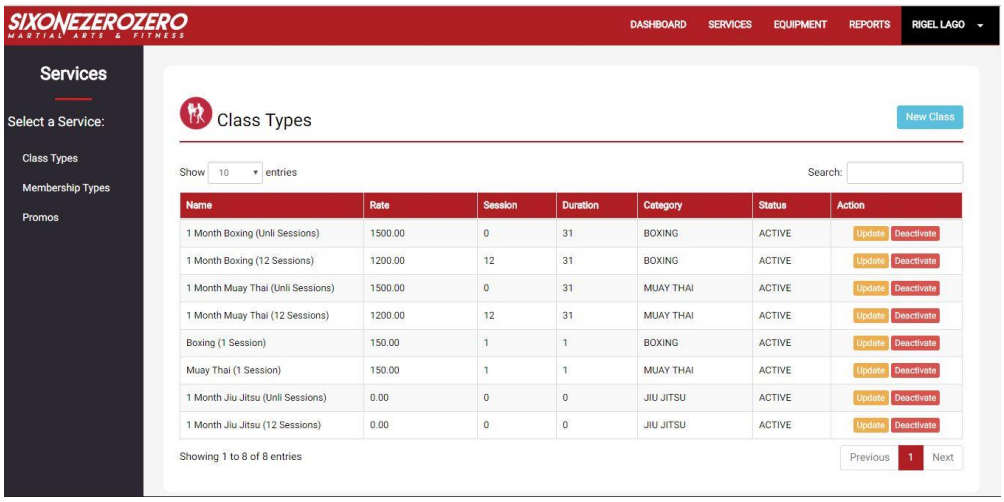


Figure 16. Services Tab

Contains the list of classes a customer may enroll in the gym, membership that a customer can avail and list of promos. The admin may choose to edit or deactivate.

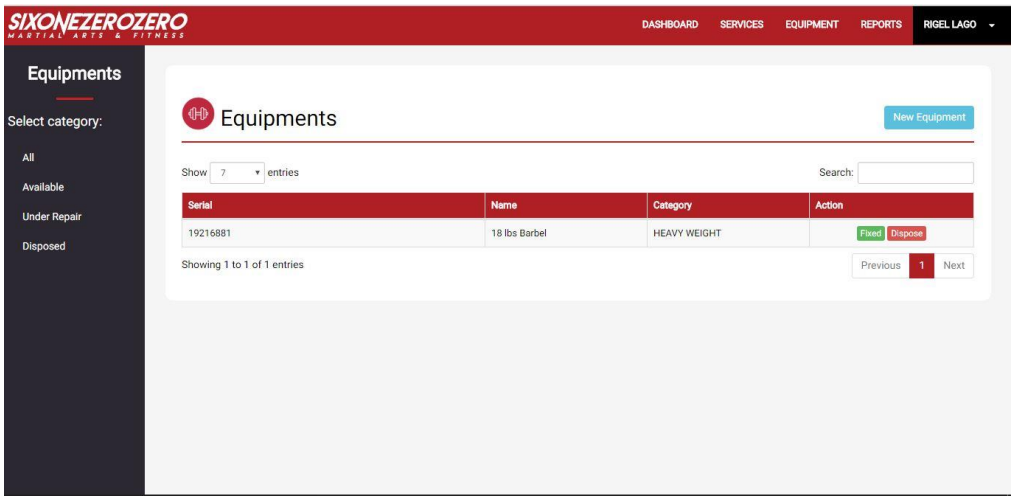


Figure 17. Equipment Tab

Shows a list of the gym's inventory which consists of equipment. List items contain information such as date added/modified, description, category, and quantity. Admin may choose to edit or restock each item.

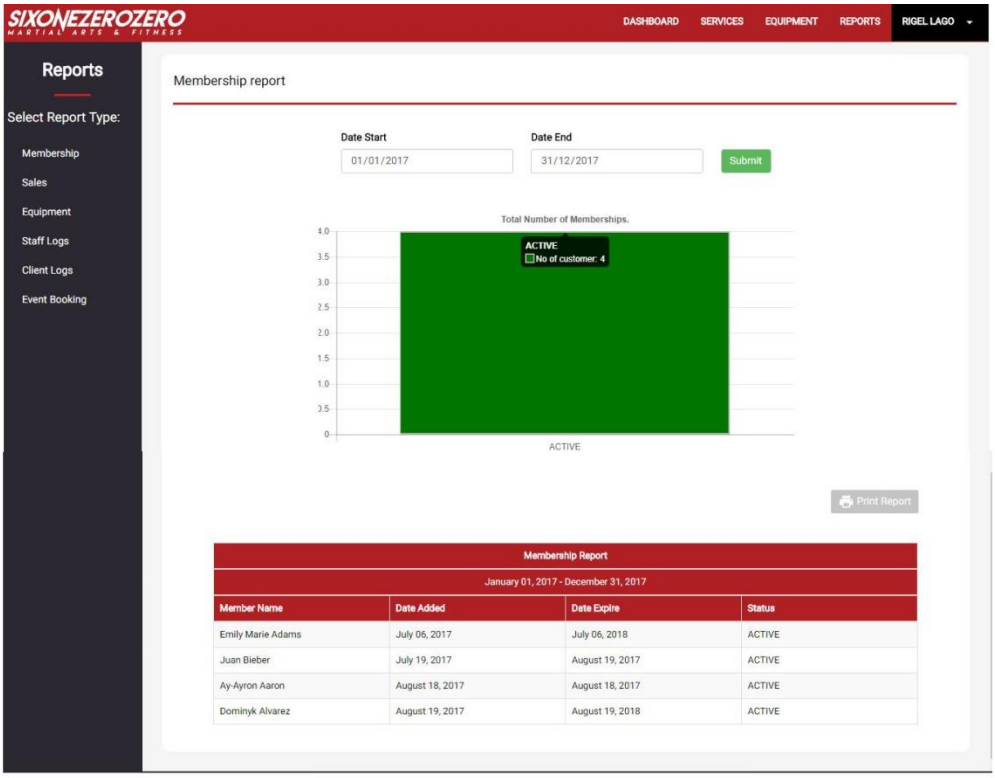


Figure 18. Reports Tab

Generates report based from the report type and date specified by the admin.

4.4.5 Coach Module

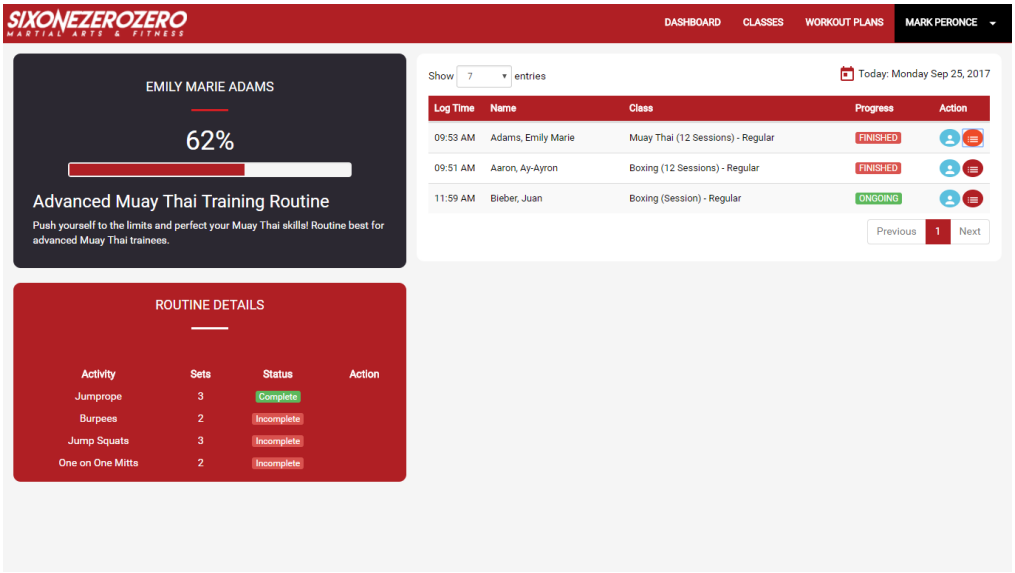


Figure 19. Coach Dashboard

A landing page after logging in, the coach may view the current logged in clients of the gym enrolled in their class. The coach may then assign a workout routine for each client, view their current workout routine, or.

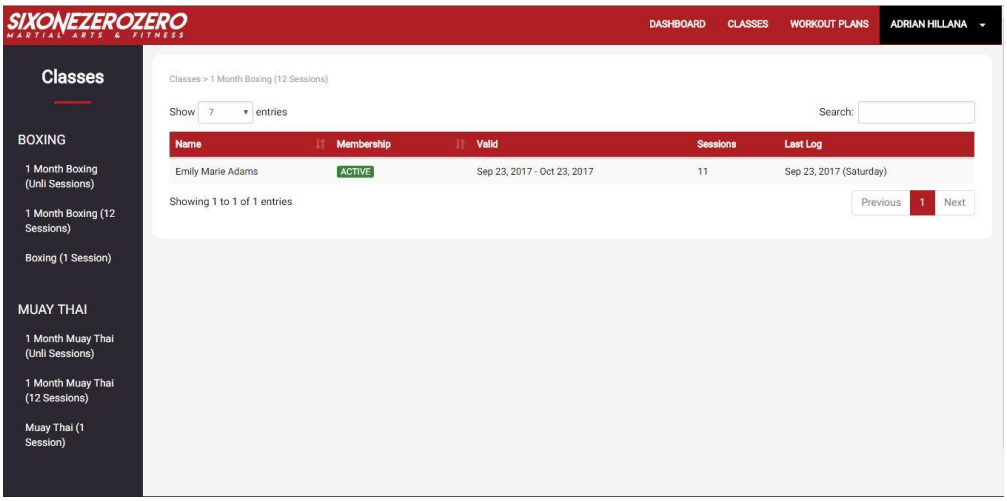


Figure 20. Classes Tab

This page displays the list of clients enrolled for a particular class.

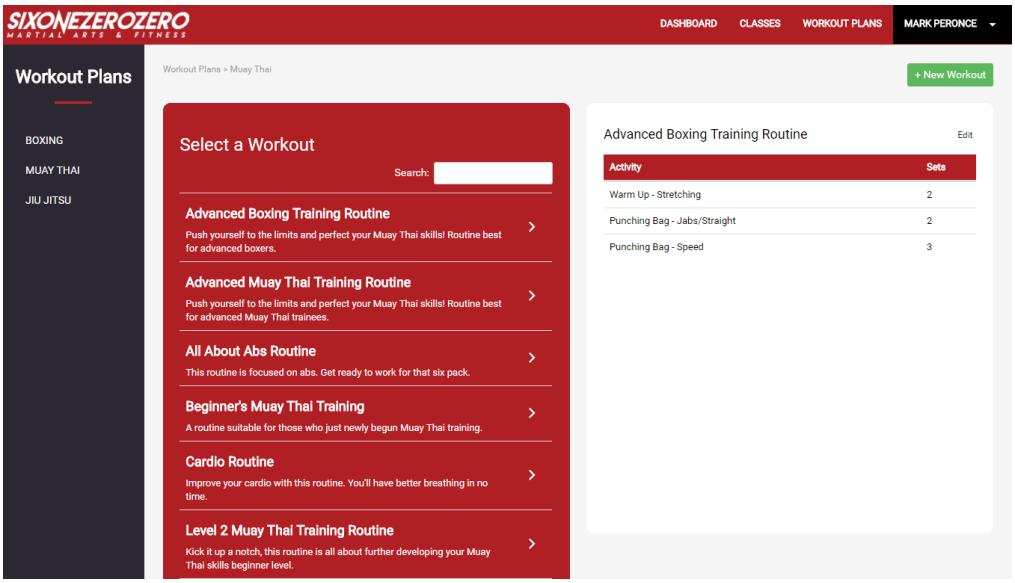


Figure 21. Workout Plan Tab

A coach may choose to view the workout plans created, add a new workout plan, or delete.

4.4.6 Client Module Mobile

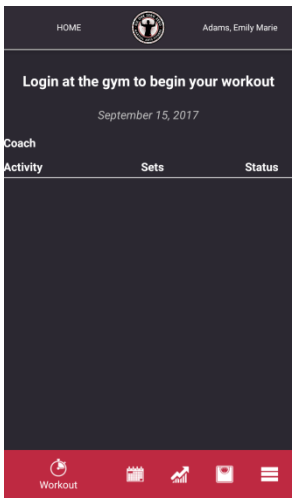


Figure 22. Workout Activity

This serves as the dashboard of the client mobile, the client can view their current workout routine assigned and its corresponding activities.

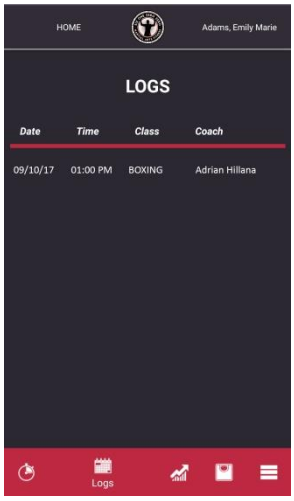


Figure 23. Logs Activity

A client can view their logs for the given month.

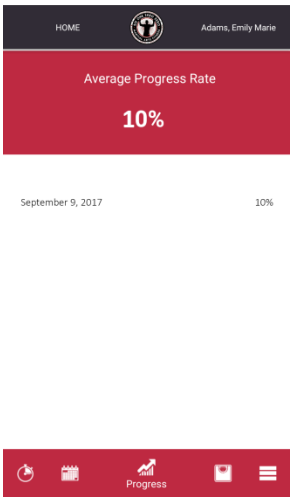


Figure 24. Progress Activity

The client has an overview of their progress shown by the average progress and a tabular view of each progress from a given log.

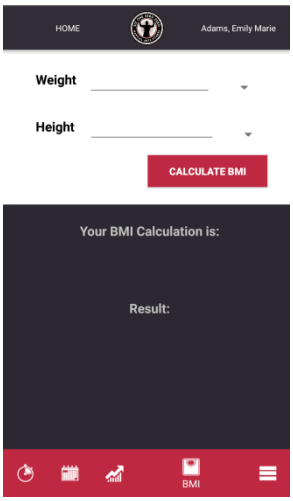


Figure 25. BMI Activity

A client can calculate their BMI and save it for recording purposes.

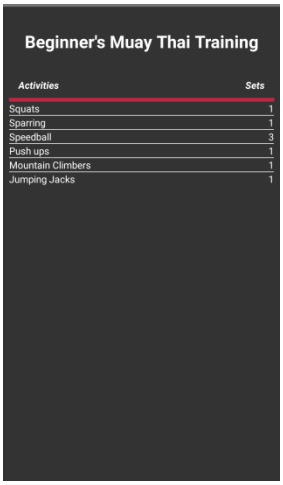


Figure 26. Log Details Activity

A client can view monthly log information such as the workout routine assigned in that particular log entry.

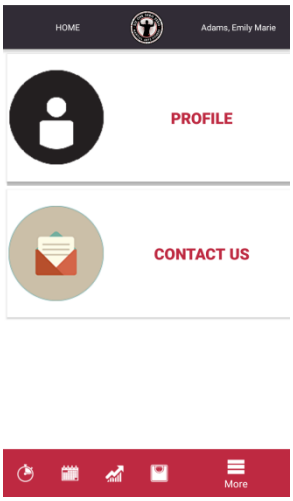


Figure 27. More Activity

Other options such as about, which contain information about the gym, profile of the client, and contact us which contain the gym's contact information.

4.4.7 Coach Module Mobile

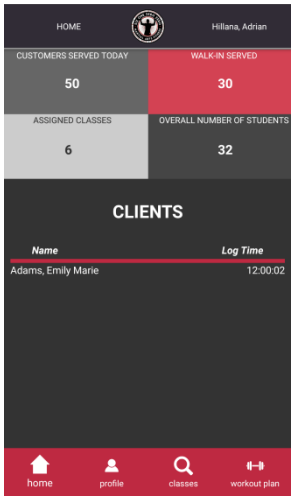


Figure 28. Dashboard Activity

The coach may view the current logged in clients of the gym enrolled in their class. The coach may then assign a workout routine for each client or view their current workout routine.

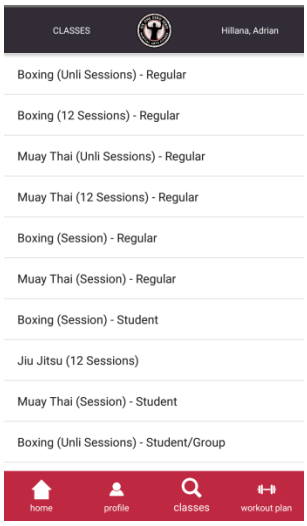


Figure 29. Class Activity

The coach may view the a list of classes he/she teaches. When selected, clients enrolled in the class are shown.

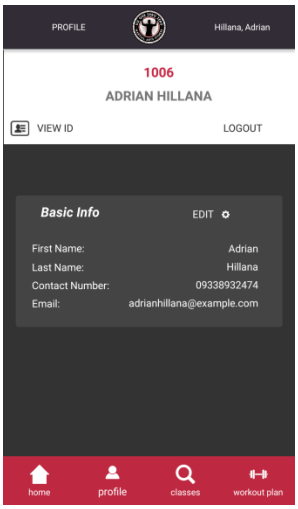


Figure 30. Coach Profile Activity

This displays the current coach's profile details.

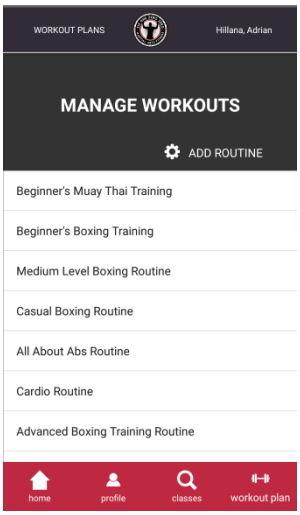


Figure 31. Manage Workout Activity

The different workout routines for classes a coach teaches is listed and may be viewed. A coach can also choose to add a new routine.

4.5 System Architectural Design

The system lets the admin add and manage class, membership, equipment, promos, and staffs. The admin can also view the sales, membership and inventory report. The admin may also confirm an event.

The system lets the cashier add, search and view the client's profile and status. The cashier has the authority to confirm pending membership registration, enroll a client to their chosen class and confirm the payment of the event being booked.

The system lets the coach view the client currently logged in the gym and assign and view a workout routine for each client. The coach can also search for the client or workout plan and create a new workout plan and add more activities..

The system lets the client see and update their personal information and view their current membership and classes. The client can also view the date and time he/she visited the gym, the transactions per month and progress rate of the completion of the routines per gym visit.

The member that uses the mobile app is capable of viewing the history of their workouts performed, log information and current class information. The member can also view the current workout routine assigned by their coach and the status of each activity.

The coach that uses the mobile app is capable of assigning a workout routine for an active client and chooses actions for each activity. The

coach can also view the current profile of an active client and manage workout and add new routines.

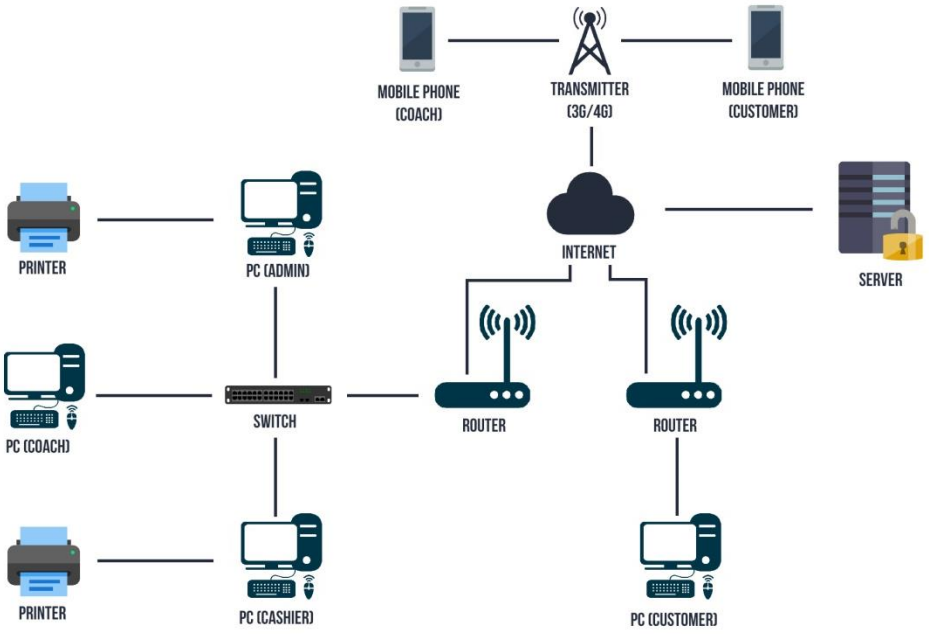


Figure 32. Architectural Design of 6100 Martial Arts and Fitness Gym Management System.

The three PC's in the 6100 Martial Arts and Fitness Gym will connect to the internet using the switch which is connected to the router. All transactions done in the PC's will be transferred to the webhost through the internet where the system is stored. The Admin can print reports while the Cashier can print only receipts.

The mobile application includes functions where coach can add workout routines, and the member can add BMI results.

The web application has four different users. First, the Admin who can add new equipment, promos, class and membership type and also view different reports stored in the system like the list of members, sales reports, equipment list, staff and client logs and event booking. The cashier, who is the second user, logs and enrolls a customer and approves pending membership registration. Third is the coach who assigns workout routines to an active customer. Fourth, the customer who can view their logs in the gym and progress report.

4.6 Physical Environment and Resources

This section shows the software and hardware requirements for the clients of the system. These are needed to ensure that the system will run appropriately.

4.6.1 6100 Martial Arts and Fitness Gym

Both hardware and physical devices are needed in order for the system to be used. A dual-core 3.06 GHz or faster for 32-bit (x86) and 64-bit (x64) processor is needed. For the memory, 2GB RAM (32-bit) or 4GB RAM (64-bit) and a 16 GB available disk space for 32-bit and 20GB for 64-bit. Other gadgets such as desktop computers, laptop and internet connectivity are mostly needed.

For the software requirements, the operating system to be used should not be earlier than Windows 7. The most

recommended browser to be used is Google Chrome for better layout and functioning of the system.

4.6.2 Coach and Client Mobile Devices

As for the Android operating system, it is preferred to run Android Jelly Bean version 4.1.x or API level 16 on the mobile device as minimum

5.0 Design and Implementation Issues

5.1 Design Issues

5.1.1 Issues

Screen resolution differs in each computer; computers with low screen resolution tend to ruin layouts. One issue is the disarrangement of the system's layout.

Another issue is the screen resolution of mobile devices. This disarranges the elements in the mobile application's layout.

5.1.2 Alternatives

The system should be responsive in order for it to adapt the different screen resolutions. Also, the computer should meet the minimum requirements of the system.

The alternative solution for the mobile application is to make the layout responsive. Also make sure the users of mobile applications have the same mobile resolution and size.

5.1.3 Solution

The research decides that the user must meet the standards and minimum requirements of the system.

The researchers concluded to set a minimum screen resolution. The mobile application requires at least a size of five inches in order to prevent disorder in the arrangement of the elements.

5.2 Implementation Issues

5.2.1 Issues

Mobiles phones with lower versions of Android have limited functionalities. The mobile app runs slower compared to phones with higher Android versions.

Another issue is that the researchers find it too tedious in the mobile app to sync the information from the database since it downloads all the data at once.

5.2.2 Alternatives

The researchers decide to retain the mobile application's functionalities.

The researchers determine to limit the information visualized in order to avoid information overload. Options are given as to how much information a user would like to display per page.

5.2.3 Solution

Users must have devices that adhere to the minimum requirements set in order for the mobile app to be used properly and without difficulty.

The researchers decide to limit the information for faster syncing.

6.0 Test Results and Observation

6.1 Alpha Test

6.1.1 Test Methodology

The alpha test was done by the group at the 6100 Martial Arts and Fitness. Different functions and interfaces of the both web and mobile application were shown to the client. The group also explained how the system works. Evaluation form was provided for the client to rate the system.

6.1.2 Test Results

For the web application, the criteria “Portability” was evaluated as 5.0 interpreted as Highly Acceptable, “Accessibility” was evaluated as 5.0 interpreted as Highly Acceptable, “Organization” was evaluated as 5.0 interpreted as Highly Acceptable, “Presentation” was evaluated as 5.0 interpreted as Highly Acceptable, “Unified Site Design” was evaluated as 5.0 interpreted as Highly Acceptable, “Data Capture” was evaluated as 5.0 interpreted as Highly Acceptable, “Security” was evaluated as 4.0 interpreted as Very Acceptable, and “Functionality” was evaluated as 5.0 interpreted as Highly Acceptable.

For the mobile application, the “Accessibility” was evaluated as 5.0 interpreted as Highly Acceptable. “Organization” was evaluated as 5.0 interpreted as Highly Acceptable, “Presentation” was evaluated as 5.0 interpreted as Highly

Acceptable, “Data Entry Method” was evaluated as 5.0 interpreted as Highly Acceptable, and “Functionality” was evaluated as 5.0 interpreted as Highly Acceptable.

6.1.3 Interpretation of Results

The overall score for the system was given by the client was 4.9 interpreted as Highly Acceptable. From the results that were gathered from the alpha testing, the group was contented on the outcome. The ease of accessing the website with different browser and internet connection speeds, the arrangement and design of the information results to easier to read and understand, and the interaction of the website to all potential users, obtained the highest score mean of 5.0 interpreted as Highly Acceptable.

For the web application, the simplicity of the functions and content design results to accessibility of the application at the variety of connection speed and easier to read even with the limitations or display resolution and the validation of data input, obtained the highest mean score of 5.0 interpreted as Highly Acceptable.

6.2 Beta Test

6.2.1 Test Methodology

The beta testing was done by the group at the Library Lobby where the group showcased their system to 20 college and

senior high school students of University of St. La Salle. User acceptance forms were prepared for them to evaluate.

6.2.2 Test Results

For the web application, the criteria “Portability” was evaluated as 4.9 interpreted as Highly Acceptable, “Accessibility” was evaluated as 4.8 interpreted as Highly Acceptable, “Organization” was evaluated as 4.9 interpreted as Highly Acceptable, “Presentation” was evaluated as 4.65 interpreted as Highly Acceptable, “Unified Site Design” was evaluated as 4.6 interpreted as Highly Acceptable, “Data Capture” was evaluated as 4.65 interpreted as Highly Acceptable, “Security” was evaluated as 4.6 interpreted as Highly Acceptable, and “Functionality” was evaluated as 4.85 interpreted as Highly Acceptable. The overall score for the web application is 4.7, interpreted as Highly Acceptable.

For the mobile application, the “Accessibility” was evaluated as 4.85 interpreted as Highly Acceptable. “Organization” was evaluated as 4.95 interpreted as Highly Acceptable, “Presentation” was evaluated as 4.75 interpreted as Highly Acceptable, “Data Entry Method” was evaluated as 4.85 interpreted as Highly Acceptable, and “Functionality” was evaluated as 4.8 interpreted as Highly Acceptable. The overall

score for the mobile application is 4.84, interpreted as Highly Acceptable.

6.2.3 Interpretation of Results

The overall score for the gym management system for 6100 Martial Arts and Fitness is 4.77, interpreted as Highly Acceptable. The results revealed that the use of responsive layout for web application design in order for the users to access the website with ease even having different browser and systematically arrange the website to show important information first to less important ones, obtained the highest mean score of 4.9 interpreted as Highly Acceptable.

In mobile application, the results revealed that arranging the information from important to less important even with the limitations of display resolution, obtained the highest mean score of 4.95 interpreted as Highly Acceptable.

6.3 Observations

6.3.1 Observation Methodology

The group used both qualitative and quantitative methods in evaluating the test results done to the users. The qualitative method is used to analyse and understand the different comments and opinions of the users towards the system. The quantitative method is used to measure the importance of the system to the number of users who tested it.

6.3.2 Test Results

The group received good feedback from the client and the students who tested the system. Most of them said that the system could really help in the efficiency of organizing the different records in the gym. Others left a comment about the design of the system, on how the structure of the web application and the design of information looks simple which makes it easy to use and read on-screen. Most of those who tested the system gave a “Highly Acceptable” rate for the system.

6.3.3 Interpretation of Results

The results revealed that the testers are satisfied with the outcome of the system. The Alpha and Beta Test proved that the system is efficient and reliable. The system received a lot of positive feedback from both client and students for they gave high ratings.

7.0 Conclusion and Recommendations

7.1 Conclusion

The manual processes of the transactions that are done in the 6100 Martial Arts and Fitness seem to be time consuming because the management has to locate and input the data and information by hand. Therefore, the group decided to create a web and mobile application for faster operations in the gym. For all the processes done in the gym, the group listed down different system objectives for them to come up with a Gym Management System for 6100 Martial Arts and Fitness.

7.2 Recommendations

The group recommends that the management should keep track of sales statistics in the system, such as hours and days where most customers visit the gym, for them to give more attention to their customers and to make business decisions. Lastly, the coaches should check their mobile phones for them to be notified if a customer needs a coach or routine for their workouts, and to keep track of their progress.

References

Alshamrani, Adel, and Abdullah Bahattab. A Comparison Between Three SDLC Models Waterfall Model, Spiral Model, and Incremental/Iterative Model. N.p., Jan. 2015. PDF.

Annan, Sriram R., and Prameer A. Kulkarni. Gym Management. N.p., Mar. 2015. PDF.

Create Apps with Graphical User Interfaces in MATLAB (n.d). Retrieved from https://www.mathworks.com /discovery/matlab-gui.html

Introduction to Scripting Language (n.d). Retrieved from http://jbiet.edu.in/coursefiles /cse/HO/cse4/SL1.pdf

Gym Management System. (n.d.). Retrieved from https://www.scribd.com/doc/305133268/Gym-Management-System-Project-Report

Kaushik, C. (2014, December 11). Online Hostel Management System Using BarCode Scanner. Retrieved from https://prezi.com/w-wgitryozb9/online-hostel-management-system-using-barcode-scanner/

Landrito, J. (2015, September 10). Gym Management. Retrieved from https://prezi.com/5ozvuwlxdz5y/gym-management/

Munassar, Nabil Mohammed Ali, and A. Govardhan. A Comparison Between Five Models Of Software Engineering. N.p., 2014. PDF.

Pierce, Russell. FLLMMCIS: A Web-based Database-driven Inventory System. N.p., 2014. PDF.

Rosenblatt, Harry J. Systems Analysis and Design 10th Edition. Cengage Learning, 2014. PDF.

Sudha, K.Laskshmi, Shirish Shinde, Titus Thomas, and Aris Abdugani. Barcode Based Student Attendance System. International Journal of Computer Applications, June 2015. PDF.

Appendix A: Letter of Intent

UNIVERSITY OF ST. LASALLE

January 26, 2017

Adrian Hillana
Gym Owner
10th St. Lacson
Bacolod City, Negros Occidental

Dear Sir Adrian Hillana:

Good day!

Our proposal for your company has been deliberated and was approved to be our Capstone Project. The proposed title of our Capstone Project is "Efficient and Reliable Gym Management System for 1 On 1 Boxing Gym".

Our study will need to look into the possibility of providing IT solutions that is beneficial to your company. With this, we would like to ask once again of your kind permission to allow us to gather additional information and sample documents regarding the daily business operation of the company.

The information and sample document will serve as important materials, which are basic to the completion of our project for our degree Bachelor of Science in Information Technology (BSIT).

Your approval on this matter will be considered a great help.

Again thank you and God Bless.

Very truly yours,

Emily Marie Adams

Trisha Dominyk Alvarez

Meagan Hofilena

Rigel Kent Lago

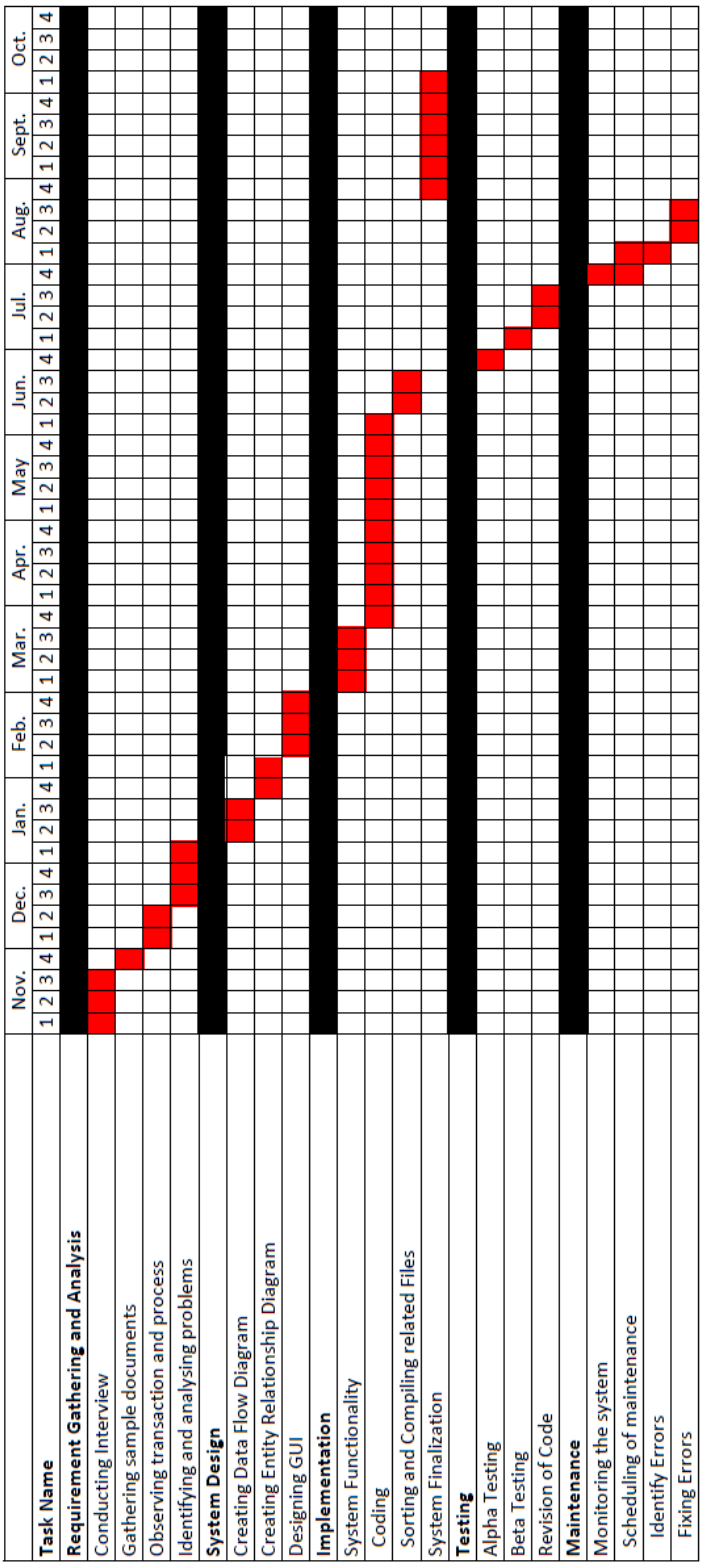
Approved by:

Loreto B. Damasco, Jr., PhD.
Teacher/Adviser

Noted by:

Carnit George B. Cordova, MSCS
Department Chair, IT

Appendix B: Gantt Chart



Appendix C: Other Figures and Diagrams

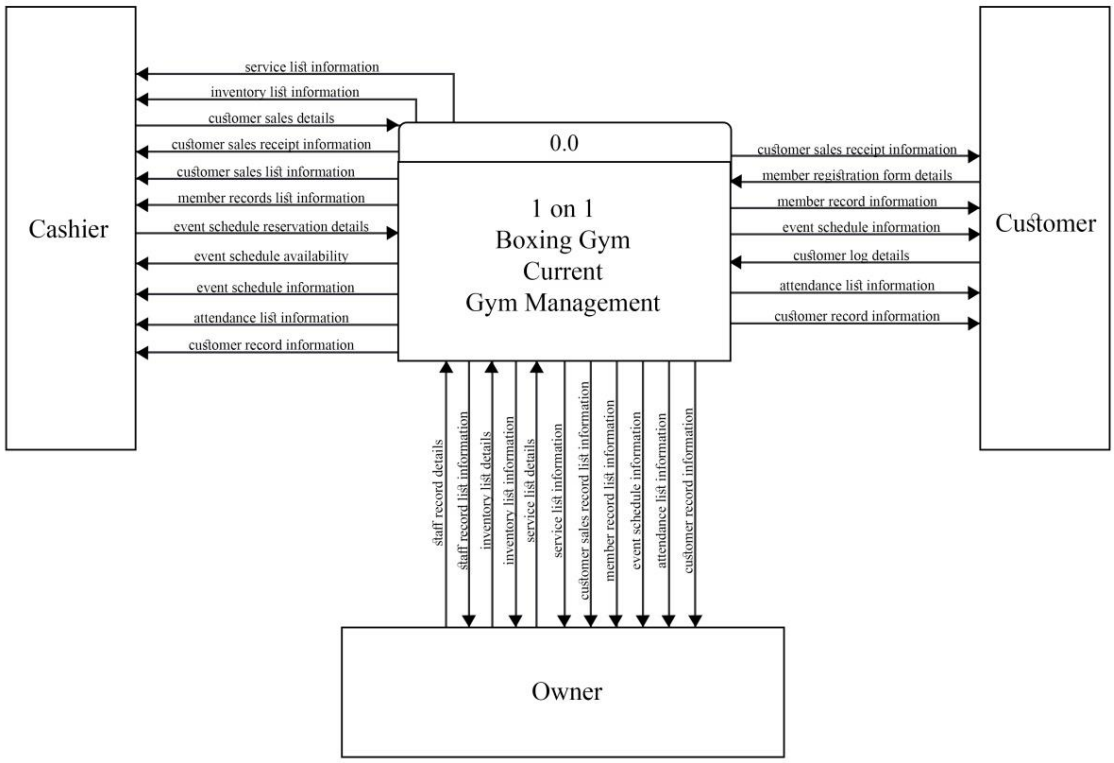


Figure 33. Context Diagram of the Current Business Processes

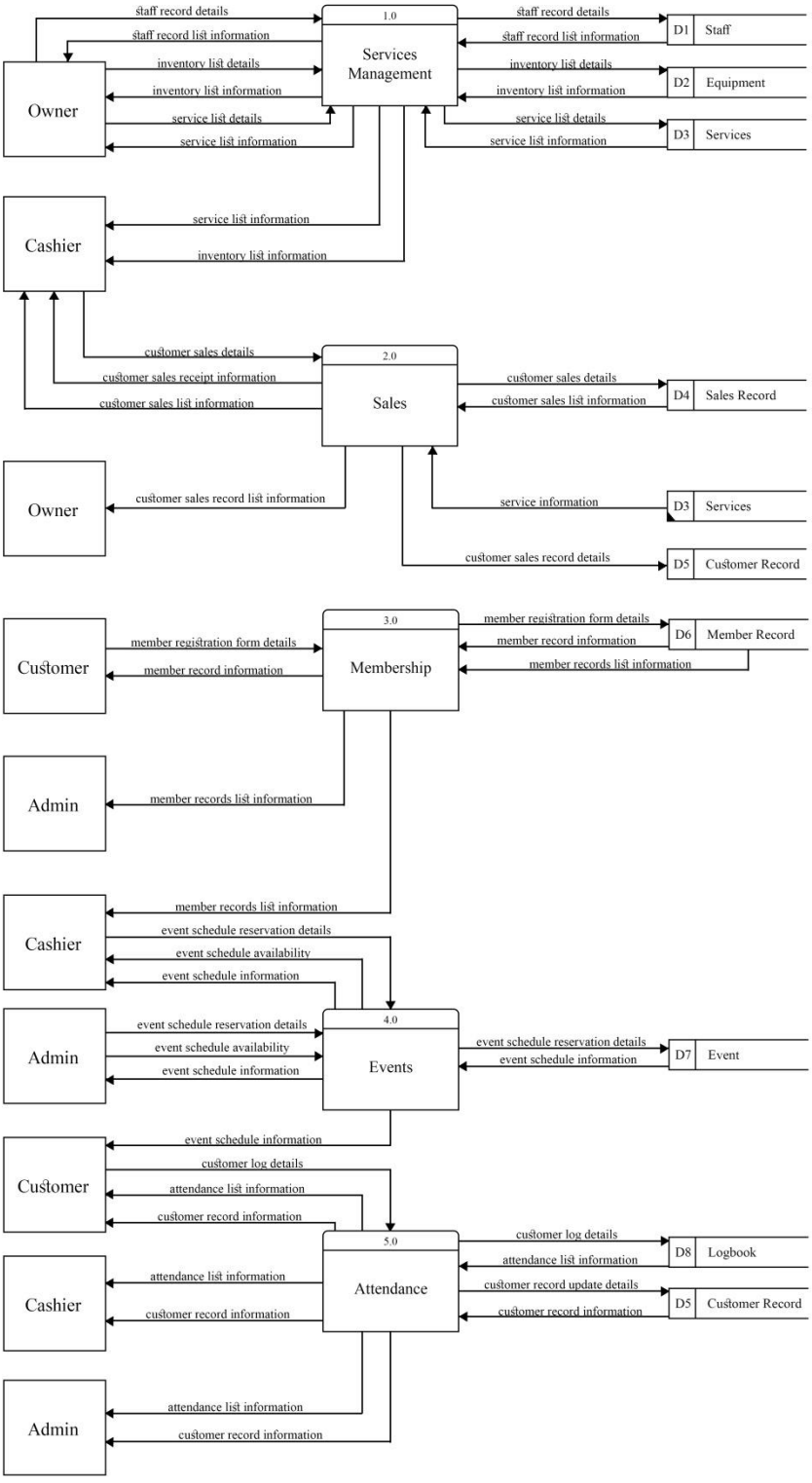


Figure 34. DFD Level 0 of the Current Business Processes

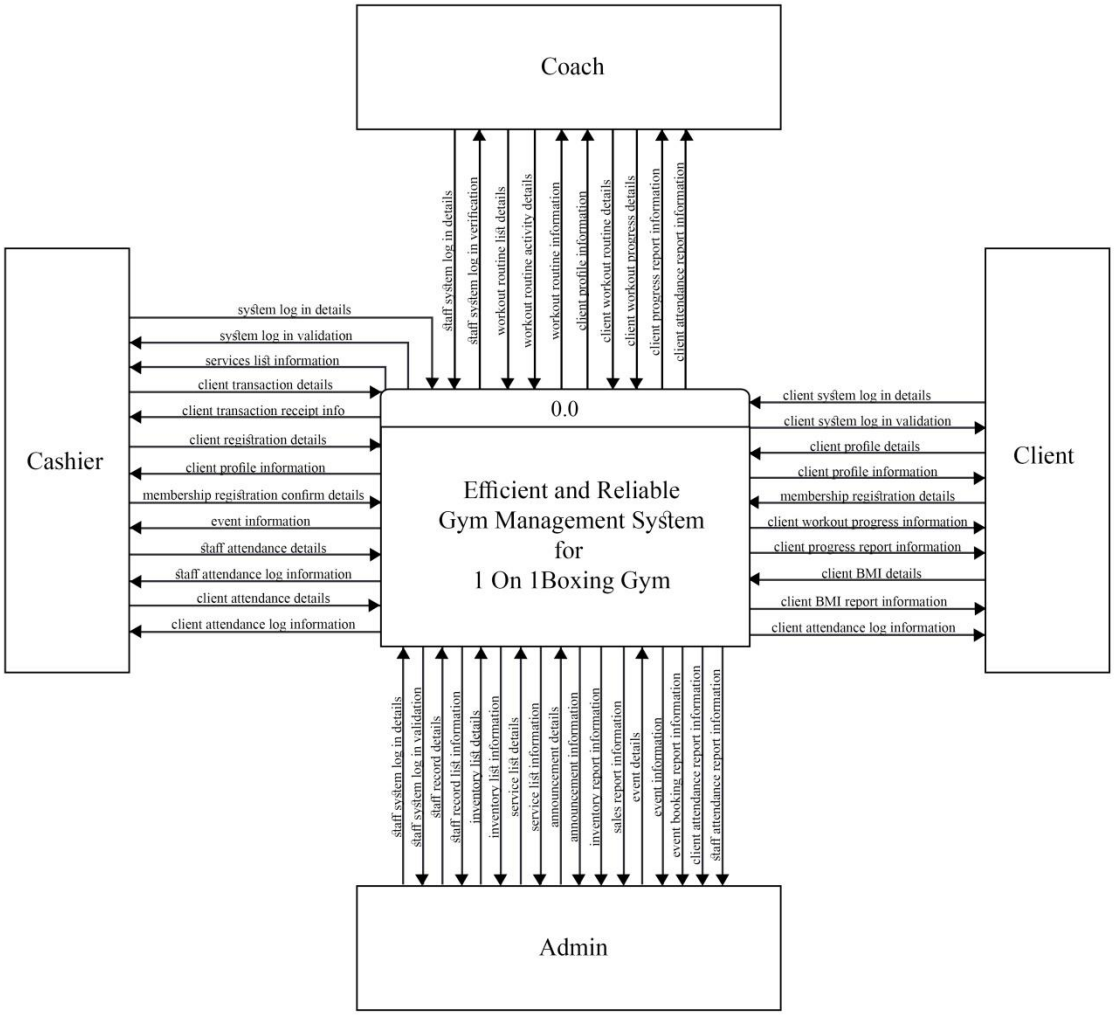
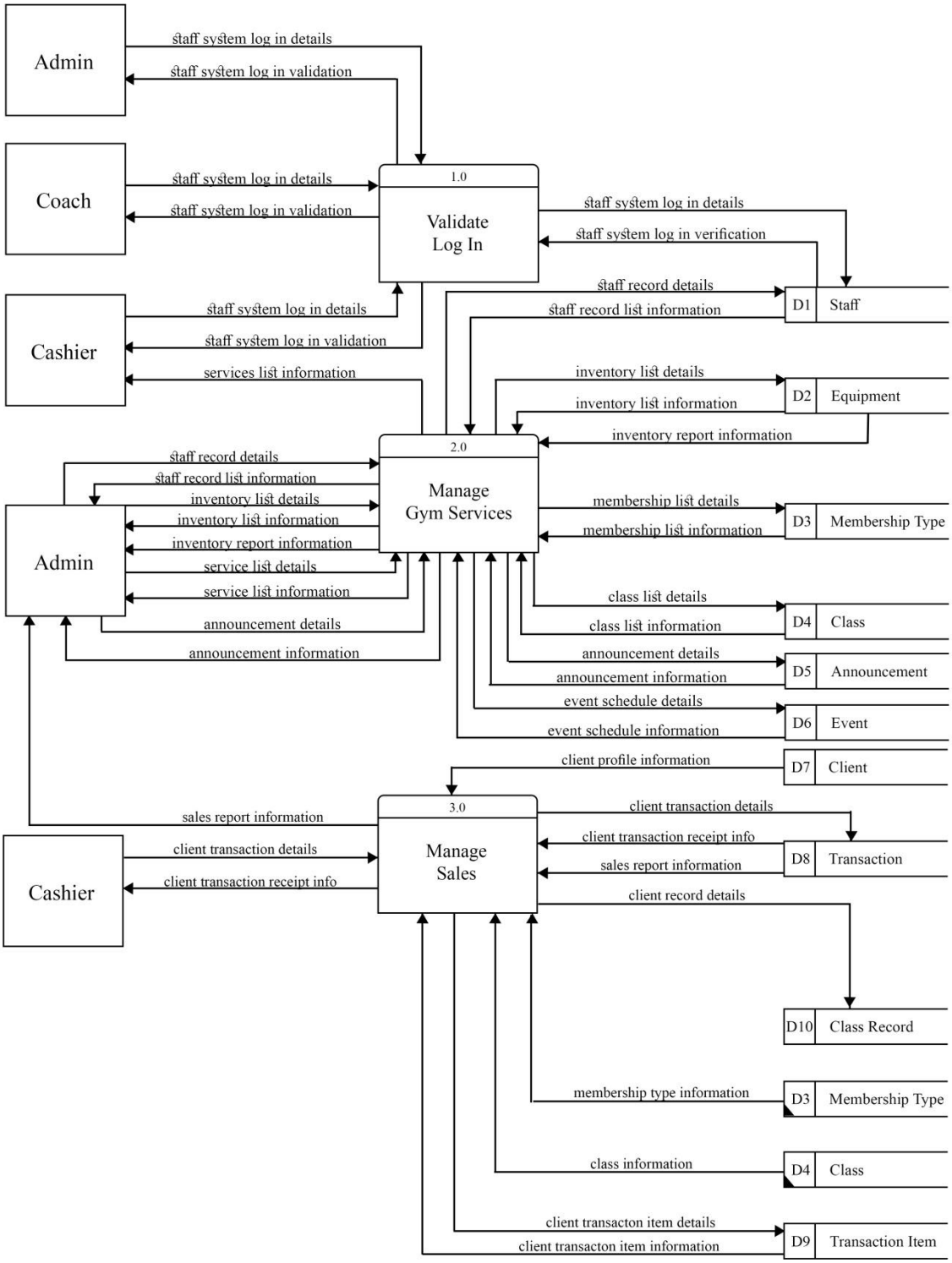
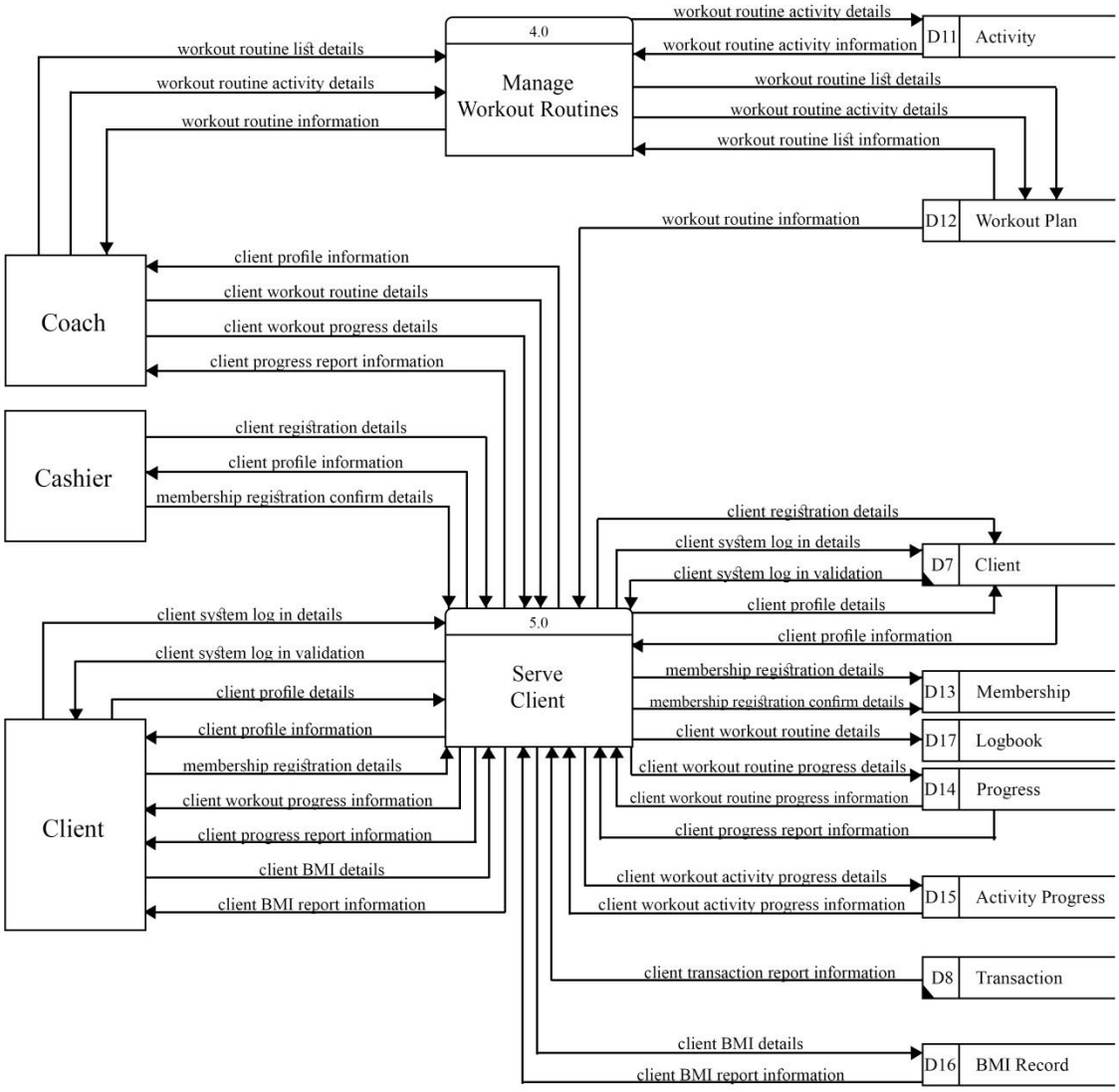


Figure 35. Context Diagram of Proposed Efficient and Reliable Gym Management System for 6100 Martial Arts & Fitness


Admin
staff system log in details
staff system log in validation
Coach
staff system log in details
staff system log in validation
1.0
Validate Log In
staff system log in details
staff system log in verification
staff record details
staff record list information
D1
Staff
Cashier
staff system log in details
staff system log in validation
services list information
inventory list details
inventory list information
D2
Equipment
inventory report information
2.0
Manage Gym Services
staff record details
staff record list information
inventory list details
inventory list information
inventory report information
service list details
service list information
Admin
membership list details
membership list information
D3
Membership Type
class list details
class list information
D4
Class
announcement details
announcement information
announcement details
announcement information
D5
Announcement
event schedule details
event schedule information
D6
Event
client profile information
D7
Client
3.0
Manage Sales
sales report information
client transaction details
client transaction receipt info
Cashier
client transaction details
client transaction receipt info
sales report information
D8
Transaction
client record details
D10
Class Record
membership type information
D3
Membership Type
class information
D4
Class
client transacton item details
client transacton item information
D9
Transaction Item


4.0
Manage Workout Routines
workout routine list details
workout routine activity details
workout routine information
workout routine activity details
workout routine activity information
workout routine list details
workout routine activity details
workout routine list information
D11 Activity
D12 Workout Plan
workout routine information
Coach
client profile information
client workout routine details
client workout progress details
client progress report information
Cashier
client registration details
client profile information
membership registration confirm details
client registration details
client system log in details
client system log in validation
client profile details
client profile information
D7 Client
5.0
Serve Client
client system log in details
client system log in validation
client profile details
client profile information
membership registration details
membership registration confirm details
client workout routine details
client workout routine progress details
client workout routine progress information
client progress report information
D13 Membership
D17 Logbook
D14 Progress
Client
membership registration details
client workout progress information
client progress report information
client BMI details
client BMI report information
client workout activity progress details
client workout activity progress information
D15 Activity Progress
client transaction report information
D8 Transaction
client BMI details
client BMI report information
D16 BMI Record

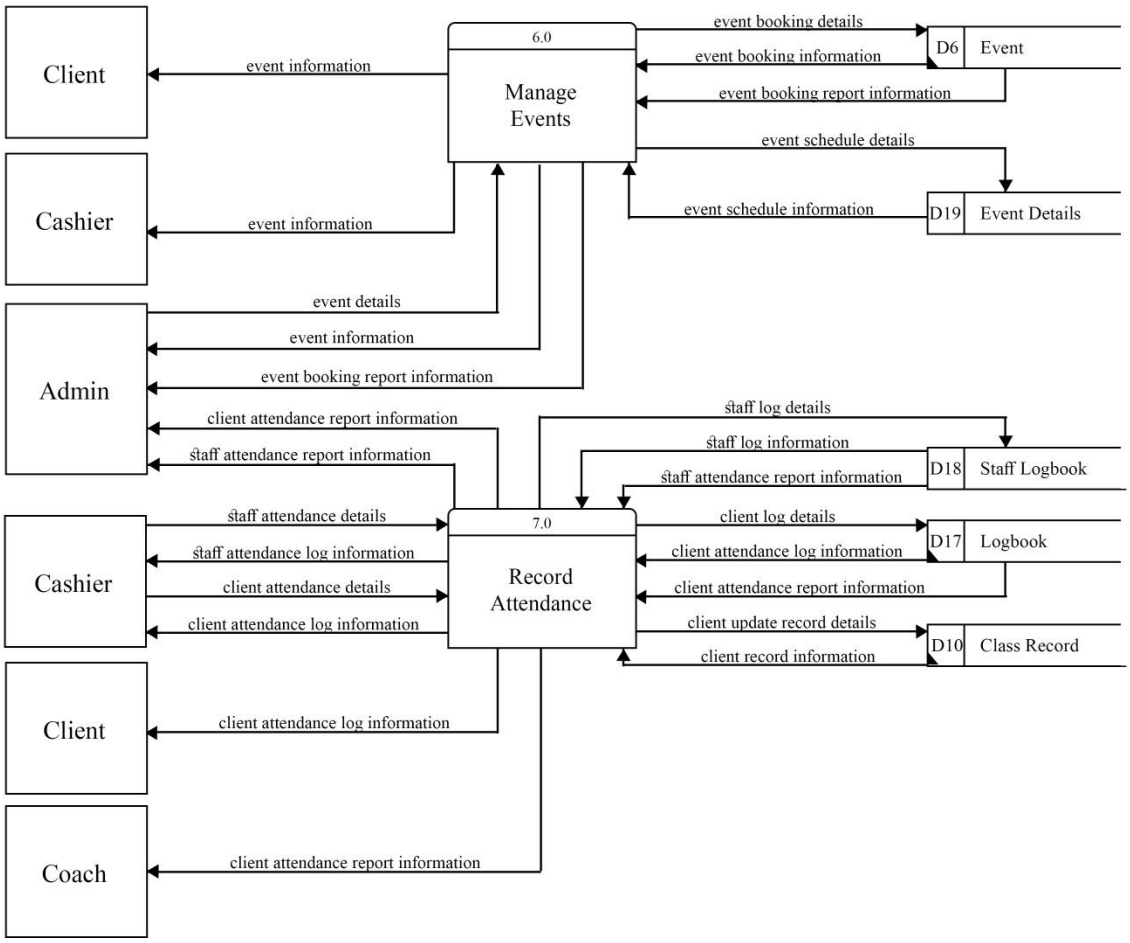


Figure 36. DFD Level 0 of the Proposed Efficient and Reliable Gym Management System for 6100 Martial Arts & Fitness

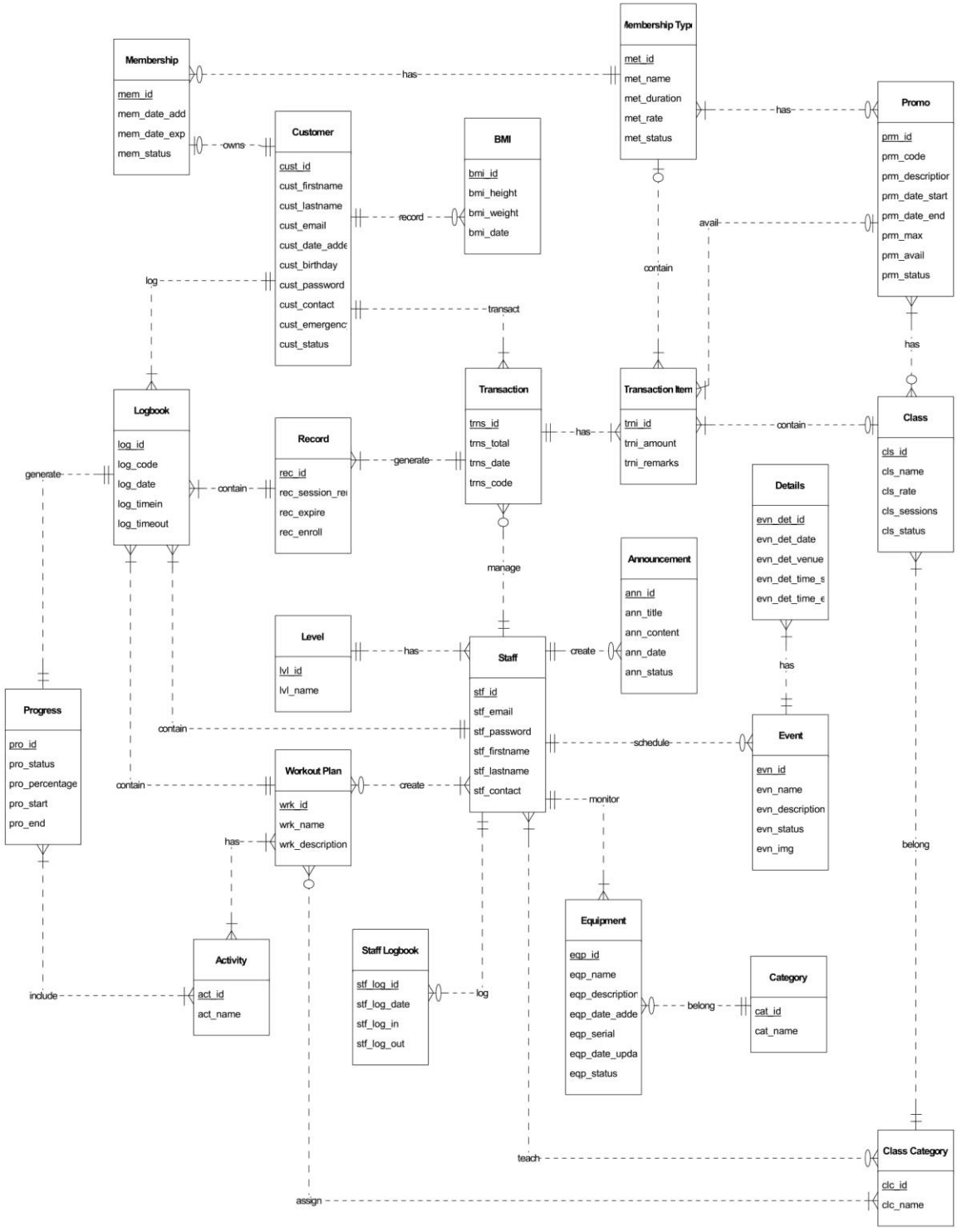


Figure 37. Entity Relationship Diagram

Appendix D: Data Dictionary

tbl_activity

Field Name	Variable Type	Description
act_id	Int(6)	Primary key, the activity ID
act_name	VarChar(150)	Activity Name

tbl_actprogress

Field Name	Variable Type	Description
acp_id	BigInt(6)	Primary key, the activity progress ID
wra_id	Int(7)	Foreign key, the primary key of tbl_workoutact
pro_id	BigInt(20)	Foreign key, the primary key of tbl_progress
acp_status	VarChar(20)	Activity progress status

tbl_announcement

Field Name	Variable Type	Description
ann_id	Int(10)	Primary key, the announcement ID
ann_title	VarChar(150)	Announcement title
ann_content	VarChar(1000)	Announcement content
ann_date	Date	Announcement date

ann_status	VarChar(10)	Announcement status

tbl_bmi

Field Name	Variable Type	Description
bmi_id	Int(6)	Primary key, the BMI id
bmi_height	Double	BMI height
bmi_weight	Double	BMI weight
bmi_date	Date	Date when the BMI was recorded
cust_id	BigInt(11)	Foreign key, the primary key of tbl_customer

tbl_bmi

Field Name	Variable Type	Description
bmi_id	Int(6)	Primary key, the BMI ID
bmi_height	Double	BMI height
bmi_weight	Double	BMI weight
bmi_date	Date	Date when the BMI was recorded
cust_id	BigInt(11)	Foreign key, the primary key of tbl_customer

tbl_category

Field Name	Variable Type	Description
cat_id	Int(3)	Primary key, the category ID
cat_name	VarChar(100)	Category name

tbl_class

Field Name	Variable Type	Description
cls_id	Int(4)	Primary key, the class ID
cls_name	VarChar(180)	Class name
cls_desc	VarChar(500)	Class description
cls_status	VarChar(12)	Class status
cls_rate	Decimal(10,2)	Rate or price of the class
cls_sessions	Int(3)	Number of session of the class
clc_id	Int(3)	Foreign key, the primary key of tbl_classcategory

tbl_classcategory

Field Name	Variable Type	Description
clc_id	Int(3)	Primary key, the class category ID
clc_name	VarChar(150)	Class category name

tbl_customer

Field Name	Variable Type	Description
cust_id	BigInt(11)	Primary key, the customer ID
cust_code	VarChar(15)	Code of the customer
cust_firstname	VarChar(100)	First name of the customer
cust_lastname	VarChar(100)	Last name of the customer
cust_email	VarChar(150)	Email add of the customer
cust_birthday	Date	Birthday of the customer
cust_password	VarChar(150)	Password of the customer
cust_contact	VarChar(12)	Contact number of the customer
cust_emergency	VarChar(12)	Emergency contact number of the customer
cust_date_added	Date	Date when the customer was added
cust_status	VarChar(12)	Status of the customer
mem_id	Int(9)	Foreign key, the primary key of tbl_membership

tbl_equipment

Field Name	Variable Type	Description
eqp_id	Int(4)	Primary key, the equipment ID
eqp_serial	VarChar(180)	Equipment serial number
eqp_name	VarChar(500)	Equipment name
eqp_date_added	VarChar(12)	Date when the equipment was added

eqp_date_update	Decimal(10,2)	Date when the equipment was updated
eqp_status	Int(3)	Equipment status: Disposed, Repair or Available
cat_id	Int(3)	Foreign key, the primary key of tbl_category

tbl_event

Field Name	Variable Type	Description
evn_id	Int(4)	Primary key, the event ID
evn_name	VarChar(180)	Event name
evn_desc	VarChar(250)	Event description
evn_status	VarChar(10)	Event status: Approved or Canceled
evn_image	VarChar(100)	Date when the equipment was updated

tbl_eventdetail

Field Name	Variable Type	Description
evn_det_id	Int(10)	Primary key, the event detail ID
evn_det_date	Date	Event date
evn_det_venue	VarChar(100)	Event venue
evn_det_time_start	Time	Starting time of the event
evn_det_time_end	Time	Ending time of the event
evn_id	Int(4)	Foreign key, primary key of tbl_event

tbl_level

Field Name	Variable Type	Description
lvl_id	Int(3)	Primary key, the level
lvl_name	VarChar(150)	Level Name

tbl_logbook

Field Name	Variable Type	Description
log_id	BigInt(20)	Primary key, the log ID
log_code	VarChar(12)	Log code
log_date	Date	Login date
log_timein	Time	Login time
log_timeout	Time	Logout time
cust_id	BigInt(11)	Foreign key, primary key of tbl_customer
rec_id	BigInt(20)	Foreign key, primary key of tbl_record
stf_id	Int(4)	Foreign key, primary key of tbl_staff
wrk_id	Int(4)	Foreign key, primary key of tbl_workoutplan

tbl_membership

Field Name	Variable Type	Description
mem_id	Int(9)	Primary key, the membership ID
mem_date_added	Date	Date when the membership was added

mem_date_expire	Date	Membership expiry date
mem_status	VarChar(15)	Membership status: Active
met_id	Int(4)	Foreign key, primary key of tbl_membershiptype
cust_id	BigInt(11)	Foreign key, primary key of tbl_customer

tbl_membershiptype

Field Name	Variable Type	Description
mem_id	Int(9)	Primary key, the membership ID
mem_date_added	Date	Date when the membership was added
mem_date_expire	Date	Membership expiry date
mem_status	VarChar(15)	Membership status: Active
met_id	Int(4)	Foreign key, primary key of tbl_membershiptype
cust_id	BigInt(11)	Foreign key, primary key of tbl_customer

tbl_progress

Field Name	Variable Type	Description
pro_id	BigInt(9)	Primary key, the progress ID
pro_percentage	Decimal	Progress percentage
pro_status	Varchar(10)	Progress status: Ongoing or Finished

pro_start	Time	Progress start time
pro_end	Time	Progress end time
log_id	BigInt(20)	Foreign key, primary key of tbl_logbook

tbl_promo

Field Name	Variable Type	Description
prm_id	Int(5)	Primary key, the promo ID
prm_code	VarChar(10)	Promo code
prm_desc	VarChar(200)	Promo description
prm_date_start	Date	Promo start date
prm_date_end	Date	Promo end date
prm_discount	Double(10,2)	Promo discount
prm_avail	Int(5)	Number of customer availed the promo
prm_max	Int(5)	Number of customer who can avail the promo
prm_status	VarChar(20)	Promo status: Open or Close

tbl_promoclass

Field Name	Variable Type	Description
cls_prm_id	Int(9)	Primary key, the Promo class ID
cls_id	Int(4)	Foreign key, the primary key of tbl_class
prm_id	Int(5)	Foreign key, the primary key of tbl_promo

tbl_record

Field Name	Variable Type	Description
rec_id	BigInt(20)	Primary key, the record ID
rec_session_remain	Int(3)	Remaining session
rec_enroll	Date	Record enroll date
rec_expire	Date	Record expiry date
trns_id	BigInt(20)	Foreign key, primary key of tbl_transaction

tbl_staff

Field Name	Variable Type	Description
stf_id	Int(4)	Primary key, the staff ID
stf_email	VarChar(150)	Staff email address
stf_password	VarChar(80)	Staff password
stf_firstname	VarChar(100)	Staff first name
stf_lastname	VarChar(100)	Staff last name
stf_contact	VarChar(50)	Staff contact number
lvl_id	Int(3)	Foreign key, primary key of tbl_level

tbl_staffclass

Field Name	Variable Type	Description
stc_id	Int(5)	Primary key, the staff ID

clc_id	Int(3)	Foreign key, primary key of tbl_classcategory
stf_id	Int(4)	Foreign key, primary key of tbl_staff

tbl_stafflogbook

Field Name	Variable Type	Description
stf_log_id	BigInt(20)	Primary key, the staff logbook ID
stf_log_date	Date	Staff login date
stf_log_in	Time	Staff login time
stf_log_out	Time	Staff logout time
stf_id	Int(4)	Foreign key, the primary key of tbl_staff

tbl_transaction

Field Name	Variable Type	Description
trns_id	BigInt(20)	Primary key, the transaction ID
trns_code	VarChar(12)	Transaction code
trns_date	DateTime	Transaction date and time
trns_total	Decimal(10,2)	Total amount of transaction
stf_id	Int(4)	Foreign key, the primary key of tbl_staff
cust_id	BigInt(11)	Foreign key, the primary key of tbl_customer

tbl_transitems

Field Name	Variable Type	Description
trni_id	BigInt(20)	Primary key, the transaction items ID
trni_amount	Decimal(10,2)	Transaction item amount
trns_id	BigInt(20)	Foreign key, the primary key of tbl_transaction
met_id	Int(4)	Foreign key, the primary key of tbl_membershiptype
cls_id	Int(4)	Foreign key, the primary key of tbl_class
trni_remarks	VarChar(50)	Transaction items remarks
prm_id	Int(5)	Foreign key, the primary key of tbl_promo

tbl_transtemp

Field Name	Variable Type	Description
trtp_id	Int(5)	Primary key, the temporary transaction ID
met_id	Int(4)	Foreign key, the primary key of tbl_membershiptype
cls_id	Int(4)	Foreign key, the primary key of tbl_class
prm_id	Int(5)	Foreign key, the primary key of tbl_promo
cust_id	BigInt(20)	Foreign key, the primary key of tbl_customer

tbl_workoutact

Field Name	Variable Type	Description
wra_id	Int(7)	Primary key, the workout activities ID
wrk_id	Int(4)	Foreign key, the primary key of tbl_workoutplan
act_id	Int(6)	Foreign key, the primary key of tbl_activity
wra_sets	Int(5)	Number of sets of the workout activity
wra_status	VarChar(10)	Workout activity status: Active or Remove

tbl_workoutclass

Field Name	Variable Type	Description
wrk_cls_id	Int(6)	Primary key, the class workout ID
wrk_id	Int(4)	Foreign key, the primary key of tbl_workoutplan
clc_id	Int(3)	Foreign key, the primary key of tbl_classcategory

tbl_workoutplan

Field Name	Variable Type	Description
wrk_id	Int(6)	Primary key, the workout plan ID
wrk_name	VarChar(150)	Workout plan name
wrk_desc	VarChar(250)	Workout plan description

Appendix E. Resource Persons

Adrian Hillana

Owner – 6100 Martial Arts & Fitness

10th Lacson Street, Bacolod City

Bryan Encarguez

Prveious Owner – 6100 Martial Arts & Fitness

10th Lacson Street, Bacolod City

Appendix F. Personal Vitae

Adams, Emily M.
Villa Miramar Phase 1, Brgy. Daga, Cadiz City
09477994612
mlymrdms@gmail.com

Alvarez, Trisha Dominyk M.
Las Villas, Bacolod City
09335327185
trishadominyk@gmail.com

Hofilena, Meagan
Brgy. Cubay, La Carlota City
09127164166
mhofilena609@gmail.com

Lago, Rigel Kent H.
Blk. 20 Lot 19 Villa Angela RPH, Bacolod City
09426454688
rigellago2013@gmail.com