UTM

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FACULTY OF ENGINEERING

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SEMESTER 2/20212022

SECJ2154 – OBJECT ORIENTED PROGRAMMING

SECTION 11

PROJECT

GYM MANAGEMENT SYSTEM

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INTRODUCTION

1.1 Description of the Project

In the Object-oriented Programming course, students are tasked with completing a project. For this project, our group has decided to work on a gym management system. This system is mainly used by the gym administrator and staff to manage equipment, customers and trainers, exercise plans, as well as subscriptions. Besides, this system also aims to allow the trainers employed in the gym to manage the exercise plans related to them. Furthermore, this system also allows the customers that are registered to the gym to choose the exercise plan they want to subscribe to. The main purpose of this system is to centralize different day-to-day operations of the gym in a single system.

1.2 OOP UML Class Diagram for the System

Figure 1 shows the UML class diagram of the Gym Management System.

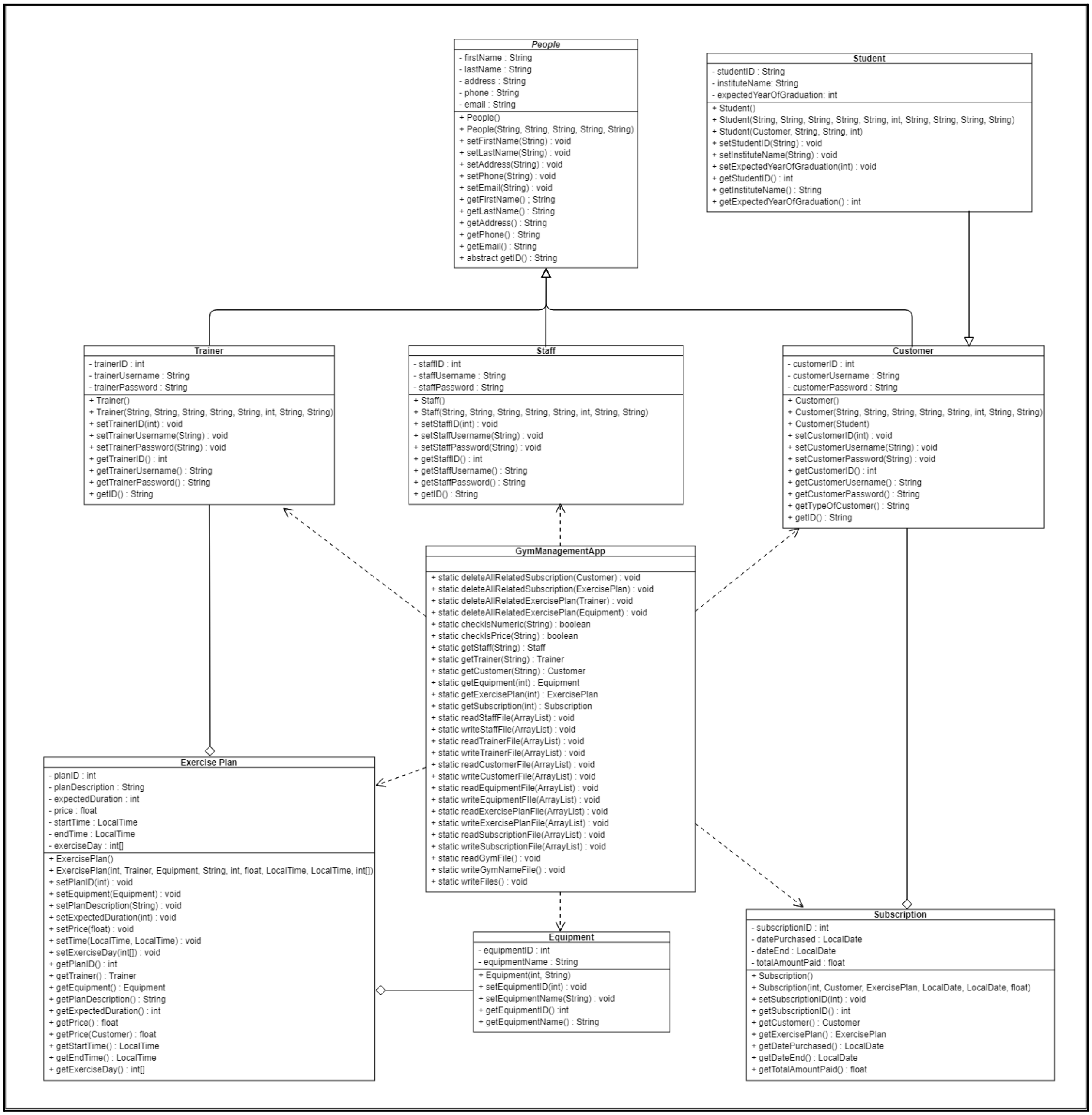

People
- firstName : String
- lastName : String
- address : String
- phone : String
- email : String
+ People()
+ People(String, String, String, String, String)
+ setFirstName(String) : void
+ setLastName(String) : void
+ setAddress(String) : void
+ setPhone(String) : void
+ setEmail(String) : void
+ getFirstName() ; String
+ getLastName() : String
+ getAddress() : String
+ getPhone() : String
+ getEmail() : String
+ abstract getID() : String
Student
- studentID : String
- instituteName: String
- expectedYearOfGraduation: int
+ Student()
+ Student(String, String, String, String, String, int, String, String, String, String)
+ Student(Customer, String, String, int)
+ setStudentID(String) : void
+ setInstituteName(String) : void
+ setExpectedYearOfGraduation(int) : void
+ getStudentID() : int
+ getInstituteName() : String
+ getExpectedYearOfGraduation() : int
Trainer
- trainerID : int
- trainerUsername : String
- trainerPassword : String
+ Trainer()
+ Trainer(String, String, String, String, String, int, String, String)
+ setTrainerID(int) : void
+ setTrainerUsername(String) : void
+ setTrainerPassword(String) : void
+ getTrainerID() : int
+ getTrainerUsername() : String
+ getTrainerPassword() : String
+ getID() : String
Staff
- staffID : int
- staffUsername : String
- staffPassword : String
+ Staff()
+ Staff(String, String, String, String, String, int, String, String)
+ setStaffID(int) : void
+ setStaffUsername(String) : void
+ setStaffPassword(String) : void
+ getStaffID() : int
+ getStaffUsername() : String
+ getStaffPassword() : String
+ getID() : String
Customer
- customerID : int
- customerUsername : String
- customerPassword : String
+ Customer()
+ Customer(String, String, String, String, String, int, String, String)
+ Customer(Student)
+ setCustomerID(int) : void
+ setCustomerUsername(String) : void
+ setCustomerPassword(String) : void
+ getCustomerID() : int
+ getCustomerUsername() : String
+ getCustomerPassword() : String
+ getTypeOfCustomer() : String
+ getID() : String
GymManagementApp
+ static deleteAllRelatedSubscription(Customer) : void
+ static deleteAllRelatedSubscription(ExercisePlan) : void
+ static deleteAllRelatedExercisePlan(Trainer) : void
+ static deleteAllRelatedExercisePlan(Equipment) : void
+ static checkIsNumeric(String) : boolean
+ static checkIsPrice(String) : boolean
+ static getStaff(String) : Staff
+ static getTrainer(String) : Trainer
+ static getCustomer(String) : Customer
+ static getEquipment(int) : Equipment
+ static getExercisePlan(int) : ExercisePlan
+ static getSubscription(int) : Subscription
+ static readStaffFile(ArrayList) : void
+ static writeStaffFile(ArrayList) : void
+ static readTrainerFile(ArrayList) : void
+ static writeTrainerFile(ArrayList) : void
+ static readCustomerFile(ArrayList) : void
+ static writeCustomerFile(ArrayList) : void
+ static readEquipmentFile(ArrayList) : void
+ static writeEquipmentFIle(ArrayList) : void
+ static readExercisePlanFile(ArrayList) : void
+ static writeExercisePlanFile(ArrayList) : void
+ static readSubscriptionFile(ArrayList) : void
+ static writeSubscriptionFile(ArrayList) : void
+ static readGymFile() : void
+ static writeGymNameFile() : void
+ static writeFiles() : void
Exercise Plan
- planID : int
- planDescription : String
- expectedDuration : int
- price : float
- startTime : LocalTime
- endTime : LocalTime
- exerciseDay : int[]
+ ExercisePlan()
+ ExercisePlan(int, Trainer, Equipment, String, int, float, LocalTime, LocalTime, int[])
+ setPlanID(int) : void
+ setEquipment(Equipment) : void
+ setPlanDescription(String) : void
+ setExpectedDuration(int) : void
+ setPrice(float) : void
+ setTime(LocalTime, LocalTime) : void
+ setExerciseDay(int[]) : void
+ getPlanID() : int
+ getTrainer() : Trainer
+ getEquipment() : Equipment
+ getPlanDescription() : String
+ getExpectedDuration() : int
+ getPrice() : float
+ getPrice(Customer) : float
+ getStartTime() : LocalTime
+ getEndTime() : LocalTime
+ getExerciseDay() : int[]
Equipment
- equipmentID : int
- equipmentName : String
+ Equipment(int, String)
+ setEquipmentID(int) : void
+ setEquipmentName(String) : void
+ getEquipmentID() :int
+ getEquipmentName() : String
Subscription
- subscriptionID : int
- datePurchased : LocalDate
- dateEnd : LocalDate
- totalAmountPaid : float
+ Subscription()
+ Subscription(int, Customer, ExercisePlan, LocalDate, LocalDate, float)
+ setSubscriptionID(int) : void
+ getSubscriptionID() : int
+ getCustomer() : Customer
+ getExercisePlan() : ExercisePlan
+ getDatePurchased() : LocalDate
+ getDateEnd() : LocalDate
+ getTotalAmountPaid() : float

Figure 1: UML Class Diagram for the System

The GymManagementApp.java will be the main class in this system. This main class is able to access other classes such as class Trainer, class Staff, class Customer, class Equipment, class ExercisePlan and class Subscription. Class Trainer, Staff and Customer are the subclasses of Class People. The class People is related to the people related to the gym, class Equipment is related to the equipment available in the gym, class ExercisePlan is related to the exercise plan offered by the gym whereas class Subscription is related to the record of customer of the gym subscribed to an exercise plan within a period.

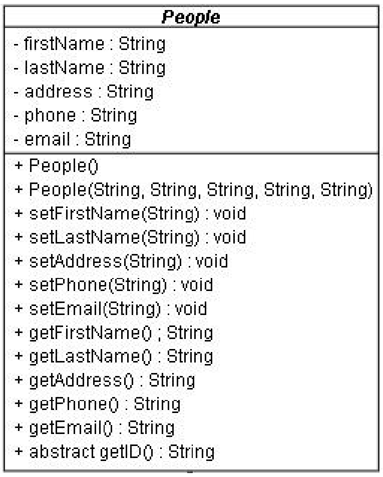
Class People as the superclass can be polymorphed into three other classes, which are class Staff, class Trainer and class Customer. Class Staff is related to the staff in the gym that has been given authority to alter almost every data except for changing data of other staff members. Class Trainer is related to the trainer employed by the gym and has the permission to manage the exercise plans related to them. Class Customer is related to the customers that are paying to use the facilities provided by the gym and have the privilege to select exercise plans to subscribe. Class Customer is also inherited by another class which is class Student, which is a special type of customer that is grafted discount on subscribing to an exercise plan.

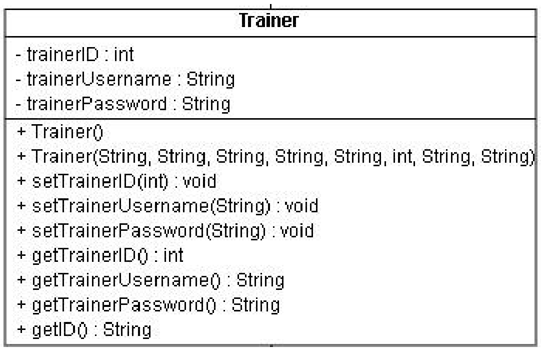
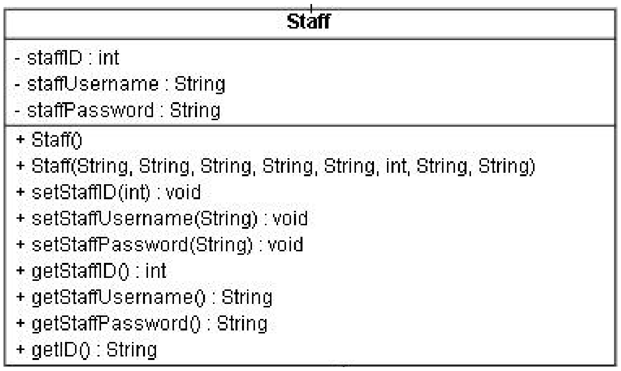
CLASS AND OBJECTS

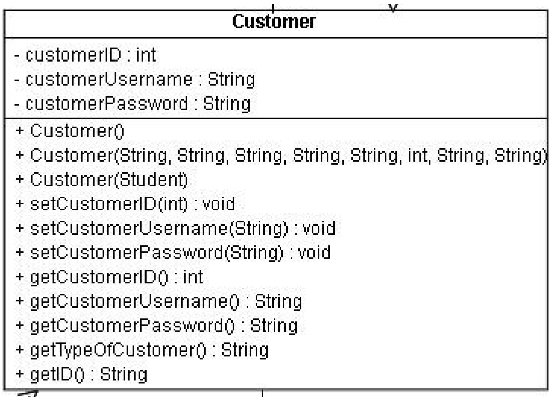
2.1 Classes

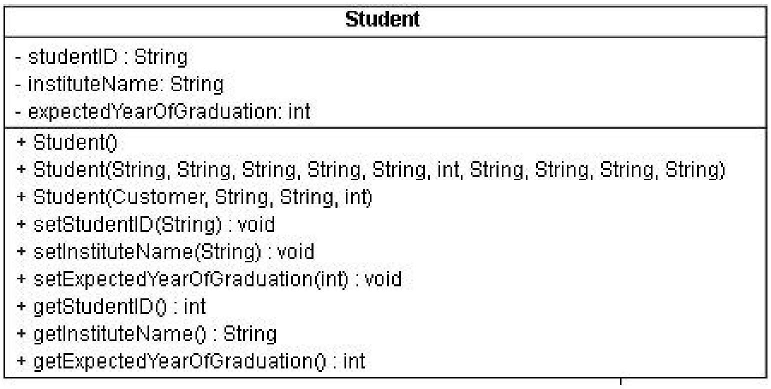
In this Gym Management System, there are up to 8 classes that make up a class diagram. Table 1 shows each of the classes and its description.

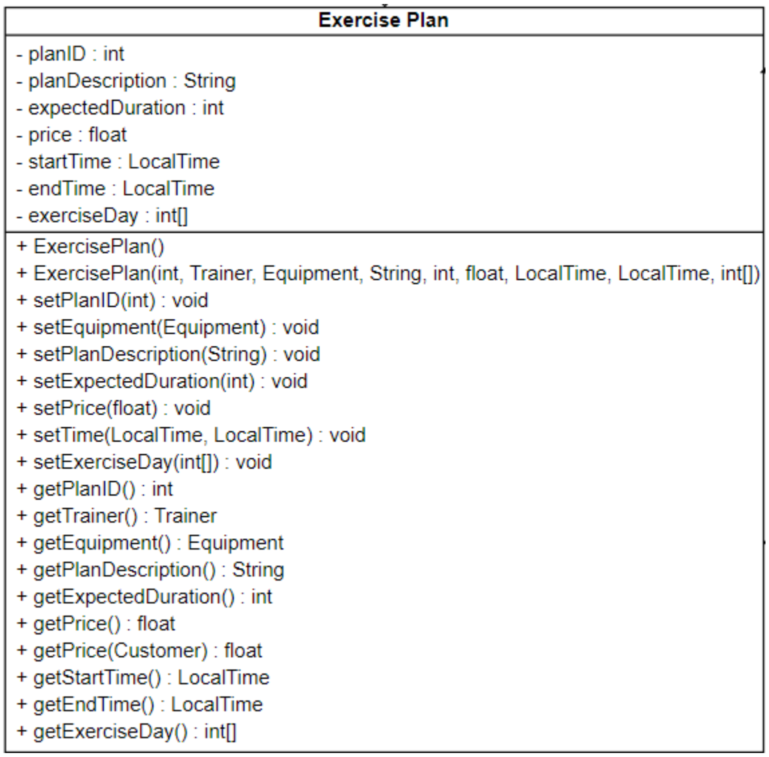
Table 1: Classes of Gym Management System and Their Description

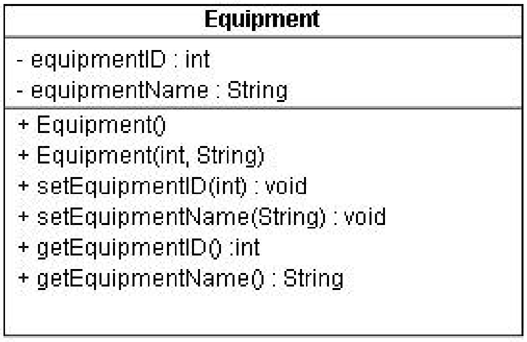
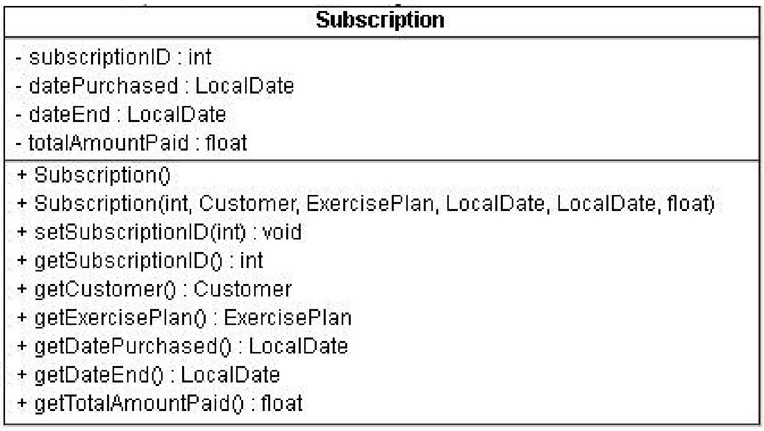
Class	Description
People	 *People* - firstName : String - lastName : String - address : String - phone : String - email : String + People() + People(String, String, String, String, String) + setFirstName(String) : void + setLastName(String) : void + setAddress(String) : void + setPhone(String) : void + setEmail(String) : void + getFirstName() ; String + getLastName() : String + getAddress() : String + getPhone() : String + getEmail() : String + abstract getID() : String
	Description: This is the class that manage the basic information of people. It is a abstract class where it cannot be instantiated, but allows its subclass to access the variables.
	Access Modifier: Public with abstract class
	Relationship: 1. Polymorphism: Abstract parent of class Trainer, Staff and Customer.
	Variables: firstName, lastName, address, phone, email
	Methods: 1. setFirstName(String), setLastName(String), setAddress(String), setPhone(String), setEmail(String) – Mutator 2. getFirstName(), getLastName(), getAddress(), getPhone(), getEmail – Accessor 3. getID() – This is an abstract parent and it contains nothing.

Trainer	 Trainer - trainerID : int - trainerUsername : String - trainerPassword : String + Trainer() + Trainer(String, String, String, String, String, int, String, String) + setTrainerID(int) : void + setTrainerUsername(String) : void + setTrainerPassword(String) : void + getTrainerID() : int + getTrainerUsername() : String + getTrainerPassword() : String + getID() : String
	Description: This is the class that represents the trainer and contains the information of trainer. This class is a subclass of the abstract class People.
	Access Modifier: Public
	Relationship: 1. Polymorphism: Subclass of abstract class People 2. Aggregation: Aggregated by class ExercisePlan.
	Variables: trainerID, trainerUsername, trainerPassword
	Methods: 1. setTrainerID(int), setTrainerUsername(String), setTrainerPassword(String) – Mutator 2. getTrainerID(), getTrainerUsername(), getTrainerPassword() – Accessor 3. getID() – Overrides from the class People, where it returns the ID of trainer in form of "TRXX", where X is the ID number.
Staff	 Staff - staffID : int - staffUsername : String - staffPassword : String + Staff() + Staff(String, String, String, String, String, int, String, String) + setStaffID(int) : void + setStaffUsername(String) : void + setStaffPassword(String) : void + getStaffID() : int + getStaffUsername() : String + getStaffPassword() : String + getID() : String
	Description: This is the class that represents the staff and contains the information of staff. This class is a subclass of the abstract class People.
	Access Modifier: Public
	Relationship:

	1. Polymorphism: Subclass of abstract class People
	Variables: staffID, staffUsername, staffPassword
	Methods: 1. setStaffID(int), setStaffUsername(String), setStaffPassword(String) – Mutator 2. getStaffID(), getStaffUsername(), getStaffPassword() – Accessor 3. getID() – Overrides from the class People, where it returns the ID of staff in form of "STXX", where X is the ID number.
Customer	 Customer - customerID : int - customerUsername : String - customerPassword : String + Customer() + Customer(String, String, String, String, String, int, String, String) + Customer(Student) + setCustomerID(int) : void + setCustomerUsername(String) : void + setCustomerPassword(String) : void + getCustomerID() : int + getCustomerUsername() : String + getCustomerPassword() : String + getTypeOfCustomer() : String + getID() : String
	Description: This is the class that represents the customer and contains the information of customer. This class is a subclass of the abstract class People and at the same time, the superclass of the class Student.
	Access Modifier: Public
	Relationship: 1. Polymorphism: Subclass of abstract class People. 2. Inheritance: Superclass of class Student.
	Variables: customerID, customerUsername, customerPassword
	Methods: 1. setCustomerID(int), setCustomerUsername(String), setCustomerPassword(String) – Mutator 2. getCustomerID(), getCustomerUsername(), getCustomerPassword() – Accessor 3. getTypeOfCustomer() – return the type of customer in either STUDENT or NORMAL. 4. getID() – Overrides from the class People, where it returns the ID of customer in form of "CTXX", where X is the ID number.

Student	 **Student** - studentID : String - instituteName: String - expectedYearOfGraduation: int + Student() + Student(String, String, String, String, String, int, String, String, String, String) + Student(Customer, String, String, int) + setStudentID(String) : void + setInstituteName(String) : void + setExpectedYearOfGraduation(int) : void + getStudentID() : int + getInstituteName() : String + getExpectedYearOfGraduation() : int
	Description: This is the class the represents the student and contains the information of student. This class is a subclass of the class Customer.
	Access Modifier: Public
	Relationship: 1. Inheritance: Subclass of class Customer
	Variables: studentID, instituteName, expectedYearOfGraduation
	Methods: 1. setStudentID(String), setInstituteName(String), setExpectedYearOfGraduation(int) – Mutator 2. getStudentID(), getInstituteName(), getExpectedYearOfGraduation() – Accessor

ExercisePlan	 **Exercise Plan** - planID : int - planDescription : String - expectedDuration : int - price : float - startTime : LocalTime - endTime : LocalTime - exerciseDay : int[] + ExercisePlan() + ExercisePlan(int, Trainer, Equipment, String, int, float, LocalTime, LocalTime, int[]) + setPlanID(int) : void + setEquipment(Equipment) : void + setPlanDescription(String) : void + setExpectedDuration(int) : void + setPrice(float) : void + setTime(LocalTime, LocalTime) : void + setExerciseDay(int[]) : void + getPlanID() : int + getTrainer() : Trainer + getEquipment() : Equipment + getPlanDescription() : String + getExpectedDuration() : int + getPrice() : float + getPrice(Customer) : float + getStartTime() : LocalTime + getEndTime() : LocalTime + getExerciseDay() : int[]
	Description: This is the class to store the information of exercise plan. The information included the assignment of trainer and equipment, as well as some basic information such as plan description, expected duration, price, start time, end time, exercise days and check for discount for specific category.
	Access Modifier: Public
	Relationship: 1. Aggregation: Aggregate to class Trainer 2. Aggregation: Aggregate to class Equipment 3. Aggregation: Aggregated by class Subscription
	Variables: planID, planDescription, expectedDuration, price, startTime, endTime, exerciseDay
	Methods: 1. setPlanID(int), setEquipment(Equipment), setPlanDescription(String), setExpectedDuration(int), setPrice(float), setTime(LocalTime, LocalTime), setExerciseDay(int[]) – Mutator 2. getPlanID(), getTrainer(), getEquipment(), getPlanDescription(), getExpectedDuration(), getPrice(), getStartTime(), getEndTime(), getExerciseDay() – Accessor 3. getPrice(Customer) – Check the price based on the category of Customer. If student, then provide 15% discount, however, if normal

	Customer, then no discount is provided.
Equipment	 **Equipment** - equipmentID : int - equipmentName : String + Equipment() + Equipment(int, String) + setEquipmentID(int) : void + setEquipmentName(String) : void + getEquipmentID() :int + getEquipmentName() : String
	Description: This is the class to store the information of equipment. The information included equipment ID and its name.
	Access Modifier: Public
	Relationship: 1. Aggregation: Aggregated by class ExercisePlan
	Variables: equipmentID, equipmentName
	Method: 1. setEquipmentID, setEquipmentName – Mutator 2. getEquipmentID, getEquipmentName – Accessor
Subscription	 **Subscription** - subscriptionID : int - datePurchased : LocalDate - dateEnd : LocalDate - totalAmountPaid : float + Subscription() + Subscription(int, Customer, ExercisePlan, LocalDate, LocalDate, float) + setSubscriptionID(int) : void + getSubscriptionID() : int + getCustomer() : Customer + getExercisePlan() : ExercisePlan + getDatePurchased() : LocalDate + getDateEnd() : LocalDate + getTotalAmountPaid() : float
	Description: This is the class that will manage the subscription of exercise plan. This class helps manage any information of customer that had subscribed for exercise plans such as the customer's information, their exercise plan's information, date purchased, date end and total amount paid.
	Public: Yes

	Relationship: Aggregation: aggregate to ExercisePlan and Customer.
	Variable: subscriptionID, datePurchased, dateEnd, totalAmountPaid
	Method: 1. setSubscriptionID(int) – Mutator 2. getSubscriptionID(), getCustomer(), getExercisePlan(), getDatePurchased(), getDateEnd(), getTotalAmountPaid() - Accessor

2.2 Objects

In this Gym Management System, there are many objects that have been instantiated to support the data storing and retrieving from the system. Table 2 shows some notable objects instantiated and their description.

Table 2: Objects in Gym Management System and Their Description

Object	**Description**
trainer	Class: Trainer
	Description: This object is instantiated when a trainer tries to log into the system. It is used to check if the trainer exists in the system.
loggedInTrainer	Class: Trainer
	Description: This object is instantiated to hold the states and behaviors of the trainer that is using the system.
selectedTrainer	Class: Trainer
	Description: This object is instantiated to store the selected trainer when choosing a trainer for an exercise plan.
trainer1, trainer2	Class: Trainer
	Description: These two objects are instantiated to be used in sorting the trainers based on trainerID in ascending order.
staff	Class: Staff
	Description: This object is used to validate the existence of staff as well as hold the variables and methods of staff in the gym.

loggedInStaff	Class: Staff
	Description: This object is instantiated to hold the states and behaviors of the staff that is using the system.
tempStaff	Class: Staff
	Description: This object is used to temporarily store the selected staff when modifying the staff's details.
staff1, staff2	Class: Staff
	Description: These two objects are instantiated to be used in sorting the staffs based on staffID in ascending order.
customer	Class: Customer
	Description: This object is used to validate the existence of customers as well as hold the variables and methods of customers in the gym.
loggedInCustomer	Class: Customer
	Description: This object is instantiated to hold the states and behaviors of a customer that is using the system.
selectedCustomer	Class: Customer
	Description: This object is instantiated to store the selected customer when choosing a customer for a subscription.
customer1, customer2	Class: Customer
	Description: These two objects are instantiated to be used in sorting the customers based on customerID in ascending order.
student	Class: Student
	Description: This object is instantiated to check whether the customer is of student type, as well as hold the variables and methods of the student.
selectedStudent	Class: Student
	Description: This object is used to store a customer of Student type.
exercisePlan	Class: ExercisePlan
	Description: This object is used to store the new exercisePlan

	created, and added into the system.
selectedExercisePlan	Class: ExercisePlan
	Description: This object is used to store the exercise plan selected from the list by the user.
exercisePlan1, exercisePlan2	Class: ExercisePlan
	Description: These two objects are instantiated to be used in sorting the exercise plans based on planID in ascending order.
equipment	Class: Equipment
	Description: This object is instantiated to hold the variables and methods of each equipment.
selectedEquipment	Class: Equipment
	Description: This object is used to store the equipment selected when adding or modifying an exercise plan.
equipment1, equipment2	Class: Equipment
	Description: These two objects are instantiated to be used in sorting the equipments based on equipmentID in ascending order.
subscription	Class: Subscription
	Description: This object is instantiated to hold the variables and methods of each subscription.
selectedSubscription	Class: Subscription
	Description: This object is instantiated to store the subscription selected by the user.
subscription1, subscription2	Class: Subscription
	Description: These two objects are instantiated to be used for sorting the subscriptions based on subscriptionID in ascending order.

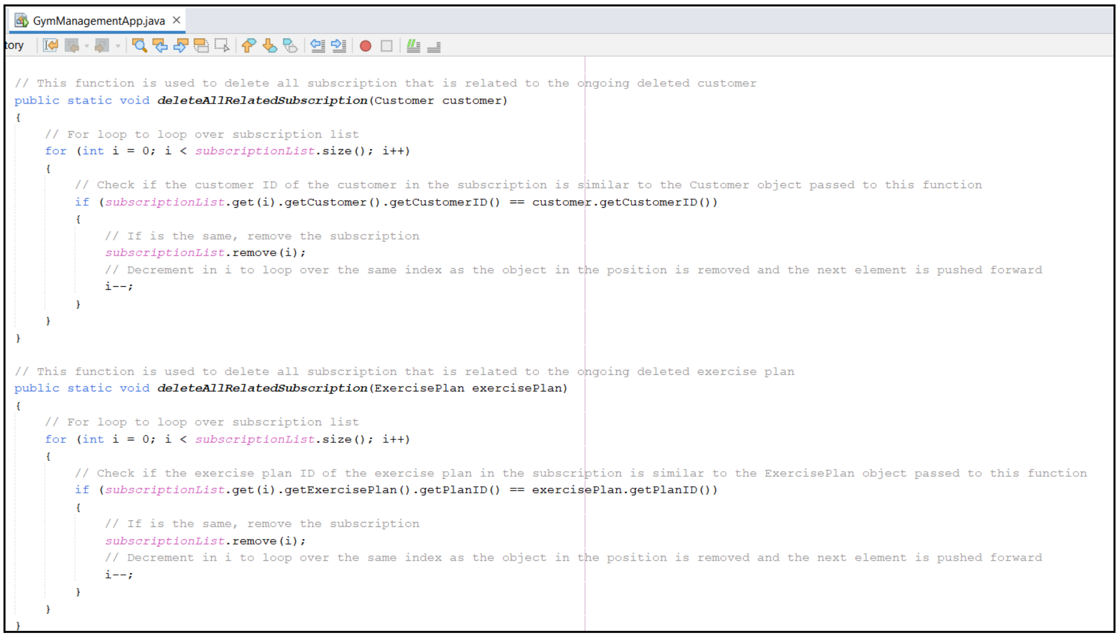
OVERLOADED METHODS OR CONSTRUCTORS

3.1 Overloaded Methods

There are three pairs of overloaded methods in our system. These pairs of methods are called “deleteAllRelatedSubscription” and “deleteAllRelatedExercisePlan” which are located at the GymManagementApp class and another method called “getPrice” which is located in ExercisePlan class. They have the same access modifier and same method name, but with different data type of argument. In the first pair, the first method have a data type of object Customer, while the second method have a data type of object ExercisePlan. Then in the second pair, the first method and second method have data type of object Trainer and Equipment respectively. For the third pair, the first method does not have any argument whereas the second method has data type of object Customer as argument.

1. First method: public static void deleteAllRelatedSubscription(Customer)

   Second method: public static void deleteAllRelateedSubscription(ExercisePlan)

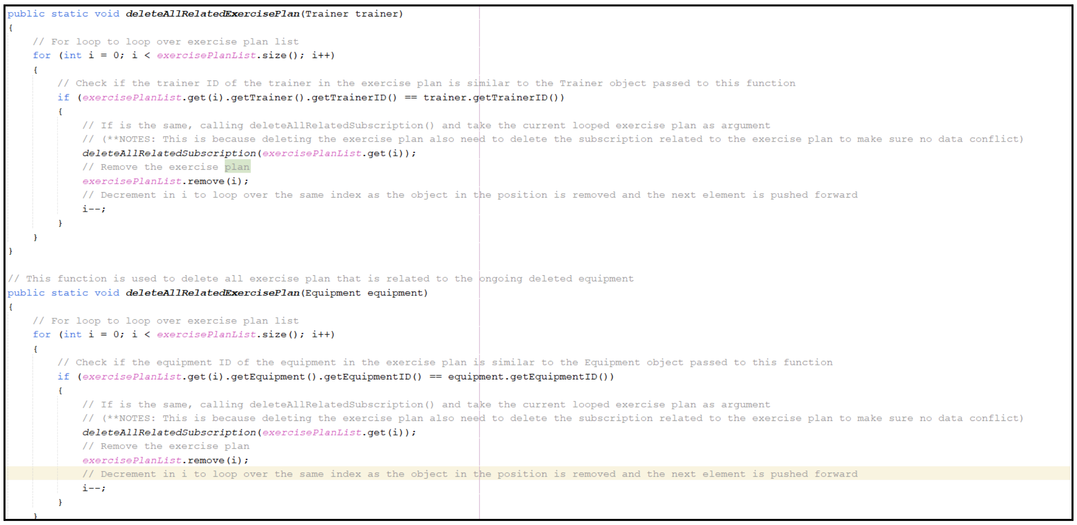


```
// This function is used to delete all subscription that is related to the ongoing deleted customer
public static void deleteAllRelatedSubscription(Customer customer)
{
    // For loop to loop over subscription list
    for (int i = 0; i < subscriptionList.size(); i++)
    {
        // Check if the customer ID of the customer in the subscription is similar to the Customer object passed to this function
        if (subscriptionList.get(i).getCustomer().getCustomerID() == customer.getCustomerID())
        {
            // If is the same, remove the subscription
            subscriptionList.remove(i);
            // Decrement in i to loop over the same index as the object in the position is removed and the next element is pushed forward
            i--;
        }
    }
}

// This function is used to delete all subscription that is related to the ongoing deleted exercise plan
public static void deleteAllRelatedSubscription(ExercisePlan exercisePlan)
{
    // For loop to loop over subscription list
    for (int i = 0; i < subscriptionList.size(); i++)
    {
        // Check if the exercise plan ID of the exercise plan in the subscription is similar to the ExercisePlan object passed to this function
        if (subscriptionList.get(i).getExercisePlan().getPlanID() == exercisePlan.getPlanID())
        {
            // If is the same, remove the subscription
            subscriptionList.remove(i);
            // Decrement in i to loop over the same index as the object in the position is removed and the next element is pushed forward
            i--;
        }
    }
}
```

Figure 2: Overloaded Methods of “deleteAllRelatedSubscription” in class GymManagementApp

2. First method: public static void deleteAllRelatedExercisePlan(Trainer)

   Second method: public static void deleteAllRelatedExercisePlan(Equipment)

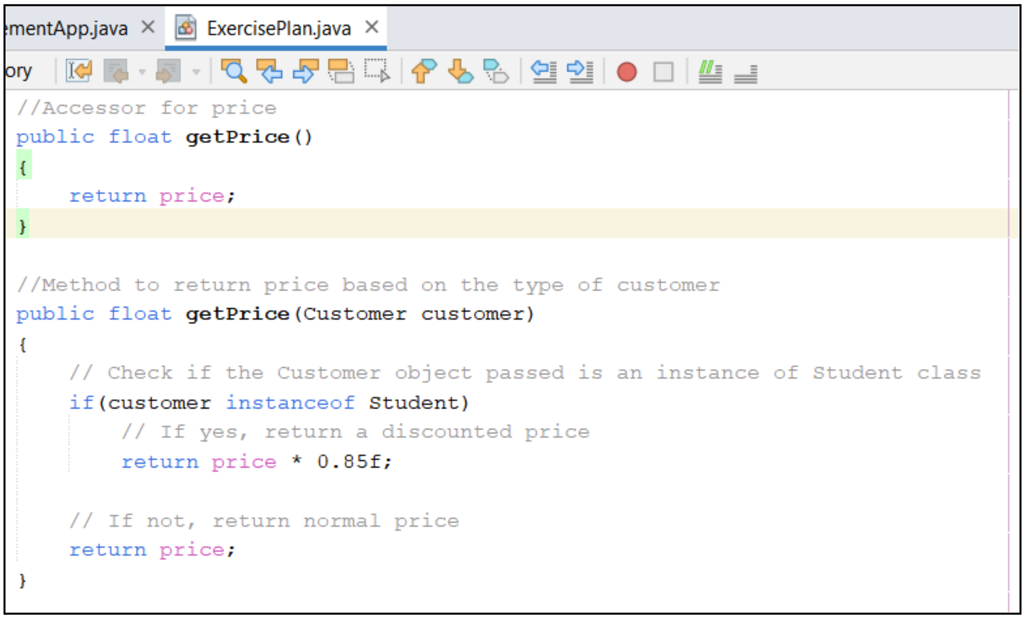


```java
public static void deleteAllRelatedExercisePlan(Trainer trainer)
{
    // For loop to loop over exercise plan list
    for (int i = 0; i < exercisePlanList.size(); i++)
    {
        // Check if the trainer ID of the trainer in the exercise plan is similar to the Trainer object passed to this function
        if (exercisePlanList.get(i).getTrainer().getTrainerID() == trainer.getTrainerID())
        {
            // If is the same, calling deleteAllRelatedSubscription() and take the current looped exercise plan as argument
            // (**NOTES: This is because deleting the exercise plan also need to delete the subscription related to the exercise plan to make sure no data conflict)
            deleteAllRelatedSubscription(exercisePlanList.get(i));
            // Remove the exercise plan
            exercisePlanList.remove(i);
            // Decrement in i to loop over the same index as the object in the position is removed and the next element is pushed forward
            i--;
        }
    }
}

// This function is used to delete all exercise plan that is related to the ongoing deleted equipment
public static void deleteAllRelatedExercisePlan(Equipment equipment)
{
    // For loop to loop over exercise plan list
    for (int i = 0; i < exercisePlanList.size(); i++)
    {
        // Check if the equipment ID of the equipment in the exercise plan is similar to the Equipment object passed to this function
        if (exercisePlanList.get(i).getEquipment().getEquipmentID() == equipment.getEquipmentID())
        {
            // If is the same, calling deleteAllRelatedSubscription() and take the current looped exercise plan as argument
            // (**NOTES: This is because deleting the exercise plan also need to delete the subscription related to the exercise plan to make sure no data conflict)
            deleteAllRelatedSubscription(exercisePlanList.get(i));
            // Remove the exercise plan
            exercisePlanList.remove(i);
            // Decrement in i to loop over the same index as the object in the position is removed and the next element is pushed forward
            i--;
        }
    }
```

Figure 3: Overloaded Methods of "deleteAllRelatedExercisePlan" in class GymManagementApp

3. First method: public getPrice()

   Second method: public getPrice(Customer)



```java
//Accessor for price
public float getPrice()
{
    return price;
}

//Method to return price based on the type of customer
public float getPrice(Customer customer)
{
    // Check if the Customer object passed is an instance of Student class
    if(customer instanceof Student)
        // If yes, return a discounted price
        return price * 0.85f;

    // If not, return normal price
    return price;
}
```

Figure 4: Overloaded Methods of "getPrice" in class ExercisePlan

The method “deleteAllRelatedSubscription” with argument of object Customer is called under the “ManageCustomerMenu” JFrame, while the other overloaded method with argument of object ExercisePlan is called inside the method “deleteAllRelatedExercisePlan”. Then, the method “deleteAllRelatedExercisePlan” is called under the “ManageEquipmentMenu” and “ManageTrainerMenu” JFrame, depending on whether the object is from Trainer or Equipment.

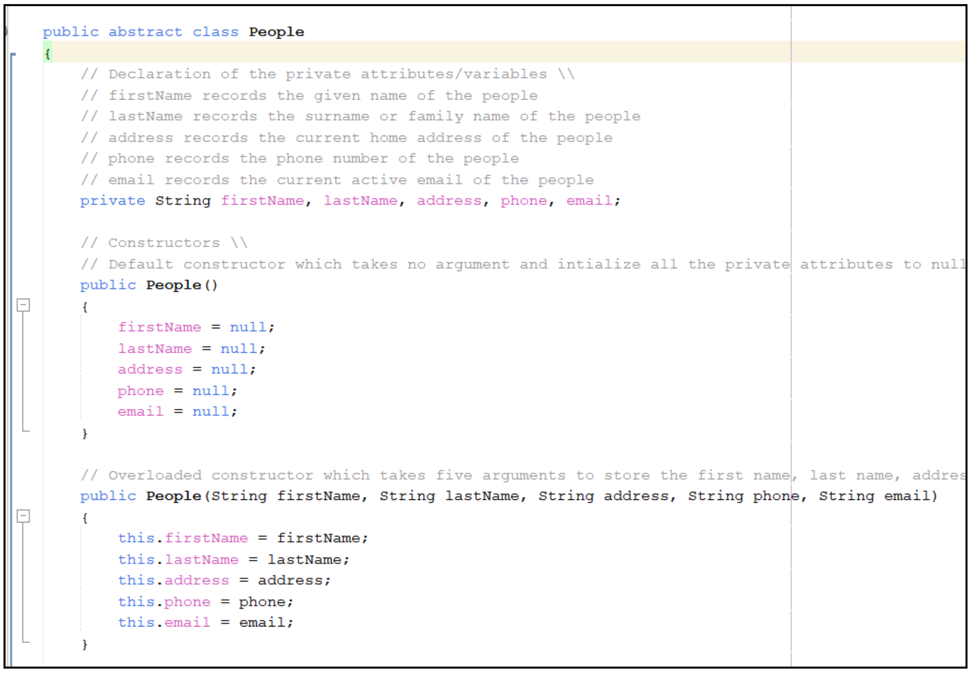
Both these 4 methods are responsible for removing the object from its respective array list. For example, when deleteAllRelatedSubscription(Customer) is called in the “ManageCustomerMenu” JFrame, then any subscription related information of the selected Customer object will be removed permanently. The similar process happens in the other 3 methods.

For the “getPrice” methods, the one without any parameter is used to directly return the normal price of an exercise plan. This method is called when managing the exercise plan by administrators, staff or trainers. For the “getPrice” method witc Customer object as parameter, it returns the price of an exercise plan based on the type of customer. If the customer is a student, the returned price will have a discount; else, it returns the normal price of the exercise plan. This method is used when managing subscriptions by administrators or staff. Besides, this method also is used when customers apply for a new exercise plan and viewing past subscriptions.

3.2 Overloaded Constructors

All the classes in this system contain overloaded constructors. Among the 8 classes, there are 6 classes (i.e. People, Trainer, Staff, ExercisePlan, Equipment, Subscription) having 2 overloaded constructor, with 1 being no argument constructor and another being parameterized constructor, while the other 2 classes (i.e. Student, Customer) have 3 overloaded constructors, with 1 being no argument constructor, and other 2 being parameterized constructors. These constructors perform different functions under different arguments. For example, the default constructor is used to initialize all String data type variables to null and int data type variables to 0 whereas the other parameterized constructor are to use the parameters passed to function to assign values to the private attributes Examples of class People and class Student are shown below.

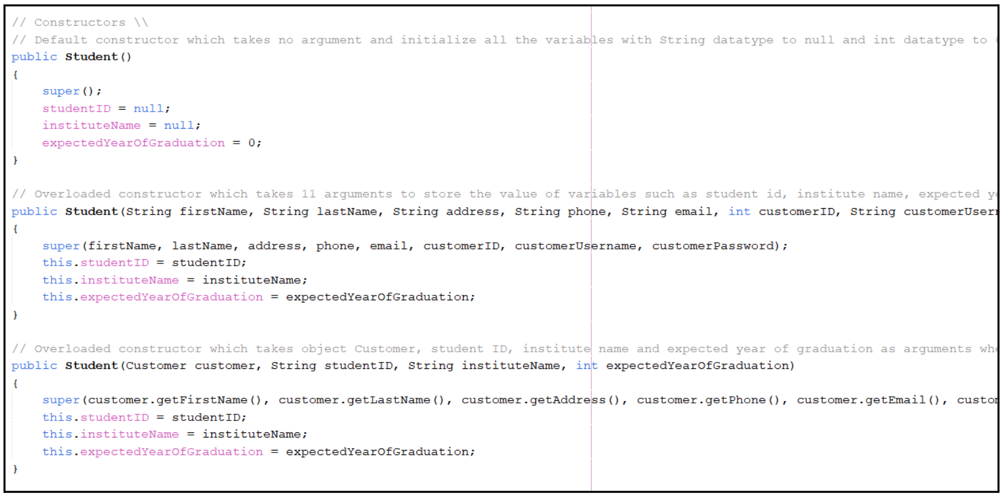
1. Class People:
    a. public People()
    b. public People(String, String, String, String, String)



```
public abstract class People
{
    // Declaration of the private attributes/variables \\
    // firstName records the given name of the people
    // lastName records the surname or family name of the people
    // address records the current home address of the people
    // phone records the phone number of the people
    // email records the current active email of the people
    private String firstName, lastName, address, phone, email;

    // Constructors \\
    // Default constructor which takes no argument and intialize all the private attributes to null
    public People()
    {
        firstName = null;
        lastName = null;
        address = null;
        phone = null;
        email = null;
    }

    // Overloaded constructor which takes five arguments to store the first name, last name, addres
    public People(String firstName, String lastName, String address, String phone, String email)
    {
        this.firstName = firstName;
        this.lastName = lastName;
        this.address = address;
        this.phone = phone;
        this.email = email;
    }
```

Figure 5: Overloaded Constructors in class People

2. Class Student:
    a. public Student()
    b. public Student(String, String, String, String, String, int, String, String, String, String)
    c. public Student(Customer, String, String, int)



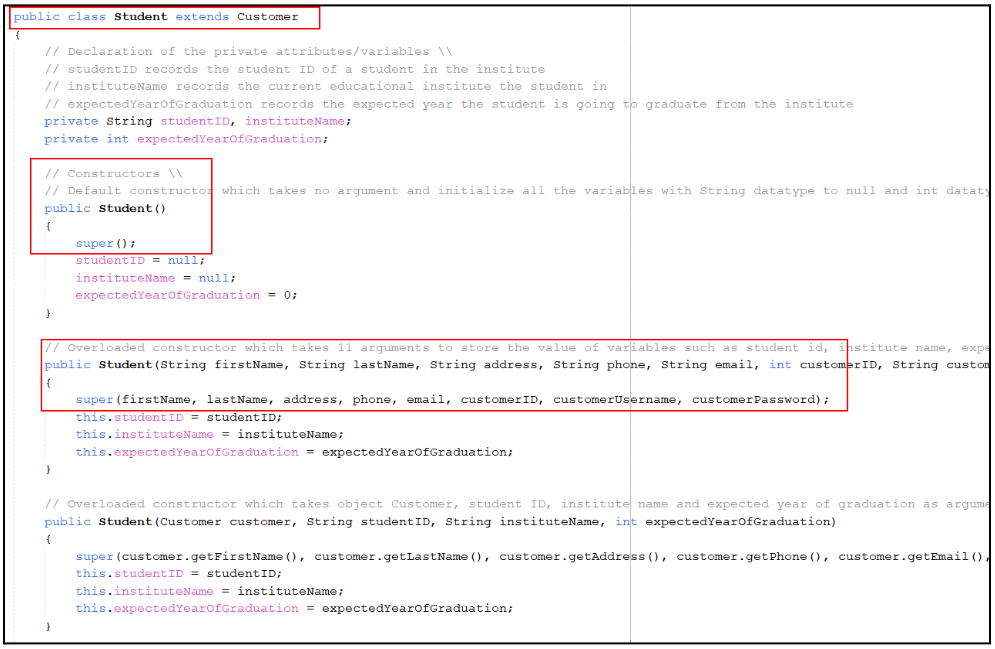
```
// Constructors \\
// Default constructor which takes no argument and initialize all the variables with String datatype to null and int datatype to
public Student()
{
    super();
    studentID = null;
    instituteName = null;
    expectedYearOfGraduation = 0;
}

// Overloaded constructor which takes 11 arguments to store the value of variables such as student id, institute name, expected y
public Student(String firstName, String lastName, String address, String phone, String email, int customerID, String customerUser
{
    super(firstName, lastName, address, phone, email, customerID, customerUsername, customerPassword);
    this.studentID = studentID;
    this.instituteName = instituteName;
    this.expectedYearOfGraduation = expectedYearOfGraduation;
}

// Overloaded constructor which takes object Customer, student ID, institute name and expected year of graduation as arguments whe
public Student(Customer customer, String studentID, String instituteName, int expectedYearOfGraduation)
{
    super(customer.getFirstName(), customer.getLastName(), customer.getAddress(), customer.getPhone(), customer.getEmail(), custom
    this.studentID = studentID;
    this.instituteName = instituteName;
    this.expectedYearOfGraduation = expectedYearOfGraduation;
}
```

Figure 6: Overloaded Constructors in class Student

INHERITANCE

The inheritance concept used in this project can be portrayed from the relationship between class Customer and class Student. Class Student is a specialized child under class Customer where the relationship between them is a student customer registered in the gym system is a customer registered in the gym. The inheritance of class Student from class Customer allows class Student to inherit all the non-private attributes and methods from the class Customer. For example, the private attributes of class Customer such as customerID, customerUsername and customerPassword and its constructors will not be inherited by class Student whereas the public methods such as the setter and getter methods in class Customer will be inherited and can be used in the class Student.

The inheritance concept is applied in the project by using keyword 'extends' to extend the class Student from class Customer and 'super' to invoke the parent class' constructor in the constructors of class Student. The figure below shows the inheritance of class Student from class Customer in the source code.



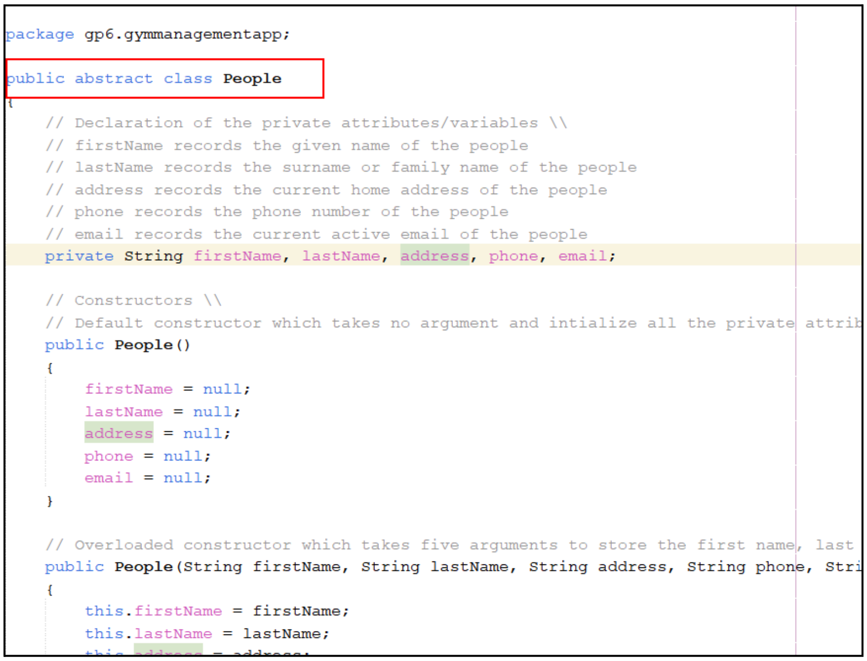
```
public class Student extends Customer
{
    // Declaration of the private attributes/variables \\
    // studentID records the student ID of a student in the institute
    // instituteName records the current educational institute the student in
    // expectedYearOfGraduation records the expected year the student is going to graduate from the institute
    private String studentID, instituteName;
    private int expectedYearOfGraduation;

    // Constructors \\
    // Default constructor which takes no argument and initialize all the variables with String datatype to null and int dataty
    public Student()
    {
        super();
        studentID = null;
        instituteName = null;
        expectedYearOfGraduation = 0;
    }

    // Overloaded constructor which takes 11 arguments to store the value of variables such as student id, institute name, expe
    public Student(String firstName, String lastName, String address, String phone, String email, int customerID, String custom
    {
        super(firstName, lastName, address, phone, email, customerID, customerUsername, customerPassword);
        this.studentID = studentID;
        this.instituteName = instituteName;
        this.expectedYearOfGraduation = expectedYearOfGraduation;
    }

    // Overloaded constructor which takes object Customer, student ID, institute name and expected year of graduation as argume
    public Student(Customer customer, String studentID, String instituteName, int expectedYearOfGraduation)
    {
        super(customer.getFirstName(), customer.getLastName(), customer.getAddress(), customer.getPhone(), customer.getEmail(),
        this.studentID = studentID;
        this.instituteName = instituteName;
        this.expectedYearOfGraduation = expectedYearOfGraduation;
    }
```

Figure 7: Using Keyword 'extends' To Extend the Class Student from Class Customer and Using Keyword 'super' to Invoke Constructors of Class Customer in the Constructors of Class Student

POLYMORPHISM

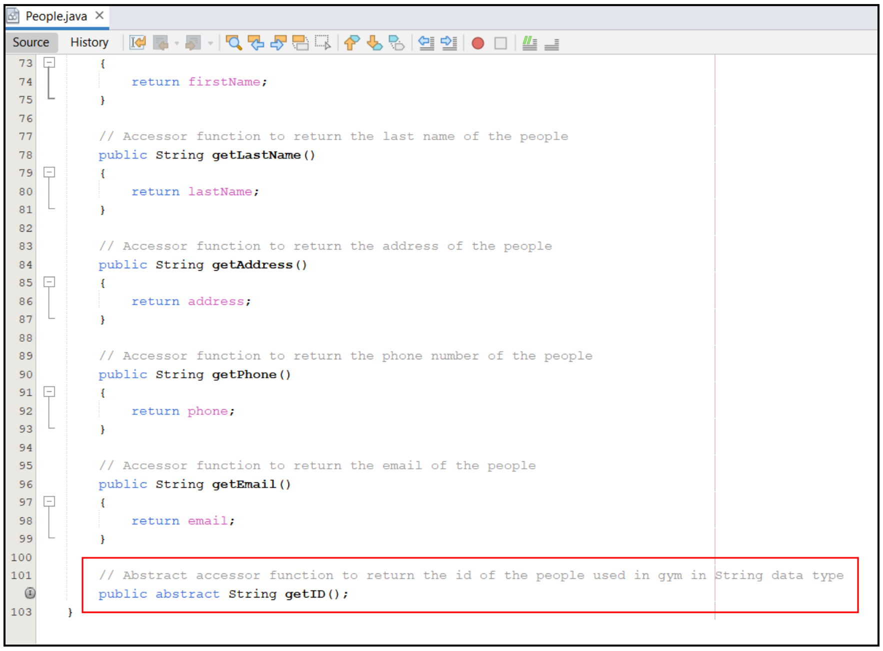
The polymorphism concept used in this project can be portrayed from the relationship between class People (abstract) to class Staff, class Trainer and class Customer. Class People is the superclass for all the other classes mentioned before and it is an abstract class which has an abstract method, getID() which will be overridden in each of the subclasses. The abstract method is used to return the ID of a person with a different prefix based on the role held by the people. For example, people who fall under category staff will have an ID with a prefix ‘ST’ in front of their ID number, category trainer will have prefix ‘TR’ whereas the customer will have prefix ‘CT’ to represent their roles in the gym.

Same with the inheritance concept, the subclasses of class People will also inherit all the non-private attributes and methods of class People such as the setter and getter methods used to alter and retrieve the private attributes of class People. The keywords used to apply polymorphism concept is similar when applying inheritance concept, which are using keyword ‘extends’ and ‘super’ but with another condition which is overriding the abstract method contained in the parent class, which is getID method. Failure to override the abstract method in parent class will result in the subclasses also becoming abstract class which causes objects cannot be instantiated from the subclasses. Figure 3 to 10 shows the concept of polymorphism applied in the project source code.



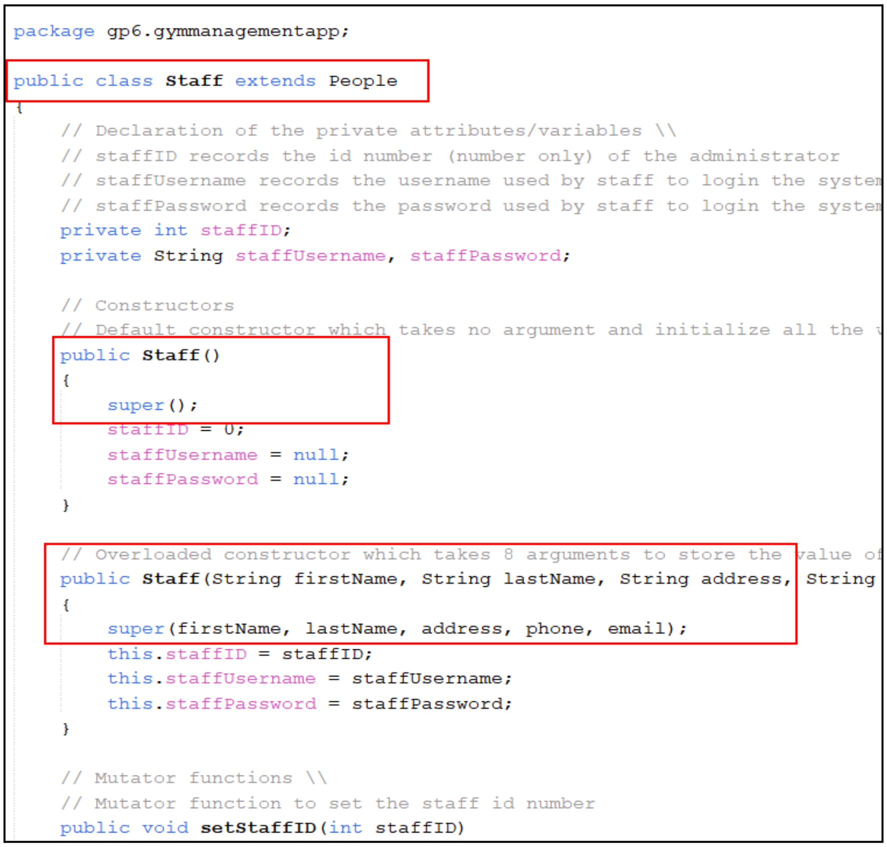
```
package gp6.gymmanagementapp;

public abstract class People
{
    // Declaration of the private attributes/variables \\
    // firstName records the given name of the people
    // lastName records the surname or family name of the people
    // address records the current home address of the people
    // phone records the phone number of the people
    // email records the current active email of the people
    private String firstName, lastName, address, phone, email;

    // Constructors \\
    // Default constructor which takes no argument and intialize all the private attrib
    public People()
    {
        firstName = null;
        lastName = null;
        address = null;
        phone = null;
        email = null;
    }

    // Overloaded constructor which takes five arguments to store the first name, last
    public People(String firstName, String lastName, String address, String phone, Stri
    {
        this.firstName = firstName;
        this.lastName = lastName;
        this.address = address;
```

Figure 8: Abstract Class People



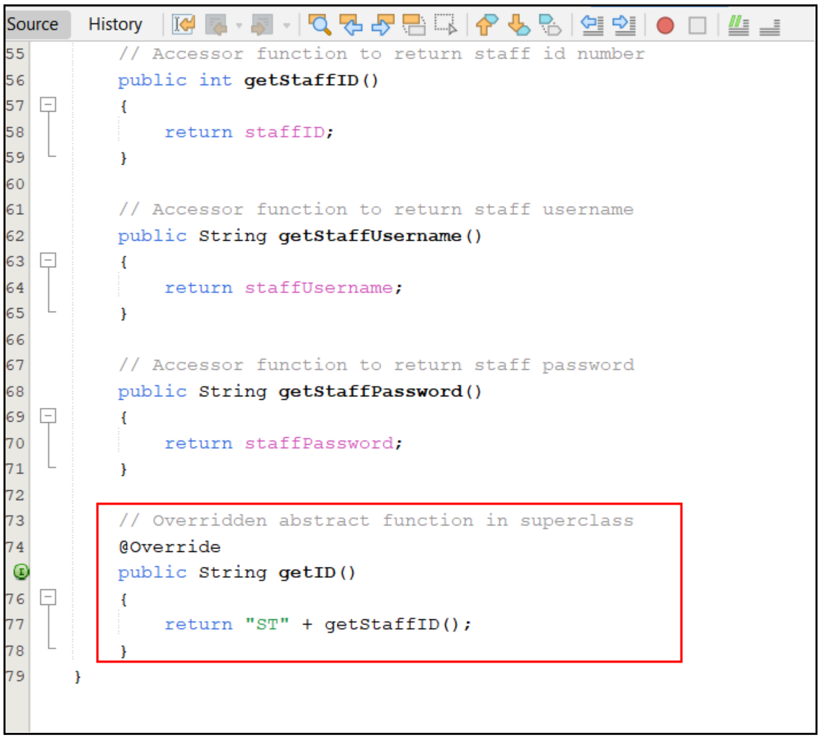
```
    {
        return firstName;
    }

    // Accessor function to return the last name of the people
    public String getLastName()
    {
        return lastName;
    }

    // Accessor function to return the address of the people
    public String getAddress()
    {
        return address;
    }

    // Accessor function to return the phone number of the people
    public String getPhone()
    {
        return phone;
    }

    // Accessor function to return the email of the people
    public String getEmail()
    {
        return email;
    }

    // Abstract accessor function to return the id of the people used in gym in String data type
    public abstract String getID();
}
```

Figure 9: Abstract Method getID() in Abstract Class People



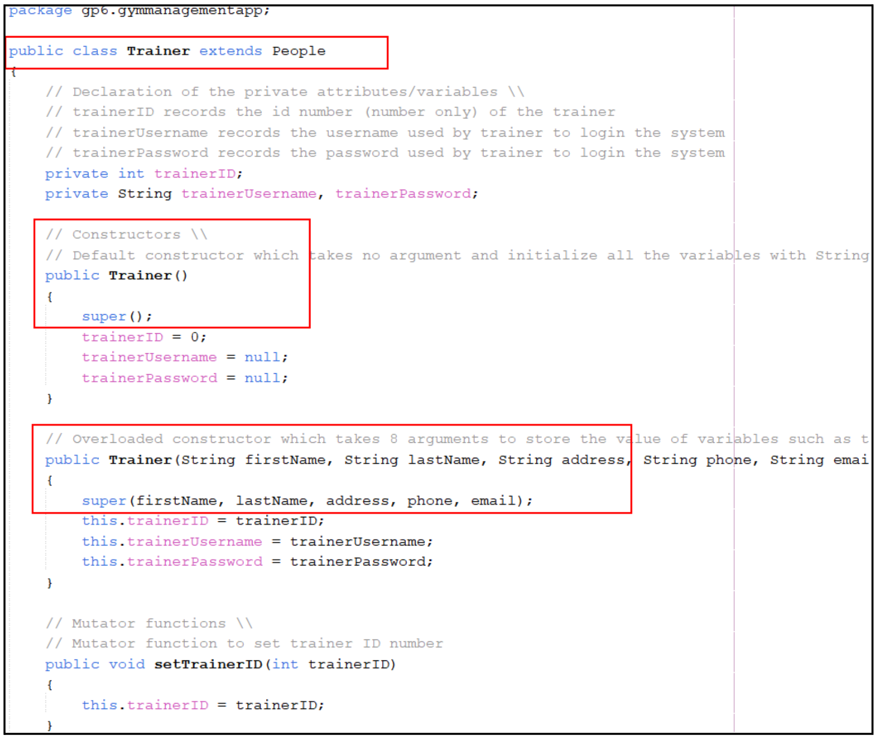
```
package gp6.gymmanagementapp;

public class Staff extends People
{
    // Declaration of the private attributes/variables \\
    // staffID records the id number (number only) of the administrator
    // staffUsername records the username used by staff to login the system
    // staffPassword records the password used by staff to login the system
    private int staffID;
    private String staffUsername, staffPassword;

    // Constructors
    // Default constructor which takes no argument and initialize all the v
    public Staff()
    {
        super();
        staffID = 0;
        staffUsername = null;
        staffPassword = null;
    }

    // Overloaded constructor which takes 8 arguments to store the value of
    public Staff(String firstName, String lastName, String address, String
    {
        super(firstName, lastName, address, phone, email);
        this.staffID = staffID;
        this.staffUsername = staffUsername;
        this.staffPassword = staffPassword;
    }

    // Mutator functions \\
    // Mutator function to set the staff id number
    public void setStaffID(int staffID)
```

Figure 10: Using Keyword 'extends' To Extend the Class Staff from Class People and Using Keyword 'super' to Invoke Constructors of Class People in the Constructors of Class Staff



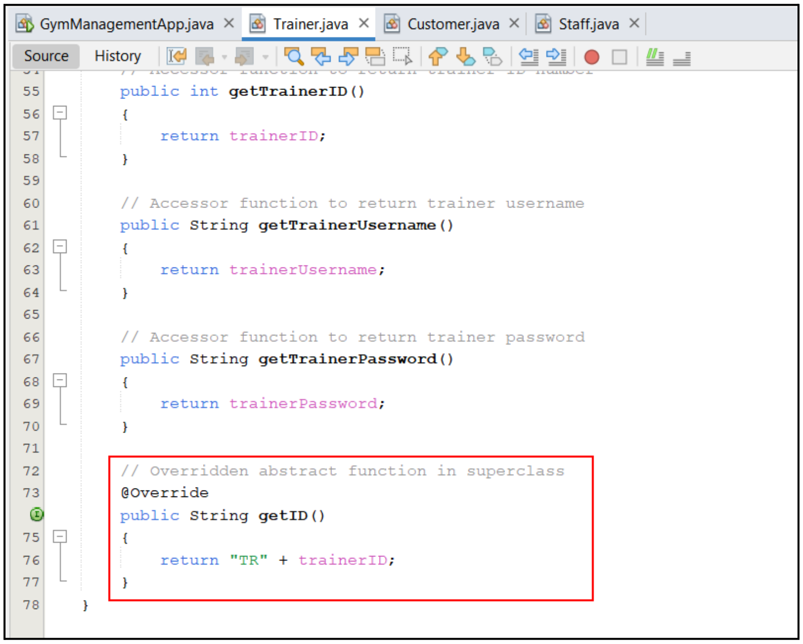
```
    // Accessor function to return staff id number
    public int getStaffID()
    {
        return staffID;
    }

    // Accessor function to return staff username
    public String getStaffUsername()
    {
        return staffUsername;
    }

    // Accessor function to return staff password
    public String getStaffPassword()
    {
        return staffPassword;
    }

    // Overridden abstract function in superclass
    @Override
    public String getID()
    {
        return "ST" + getStaffID();
    }
}
```

Figure 11: Overriding Abstract Method getID() from Class People in Class Staff



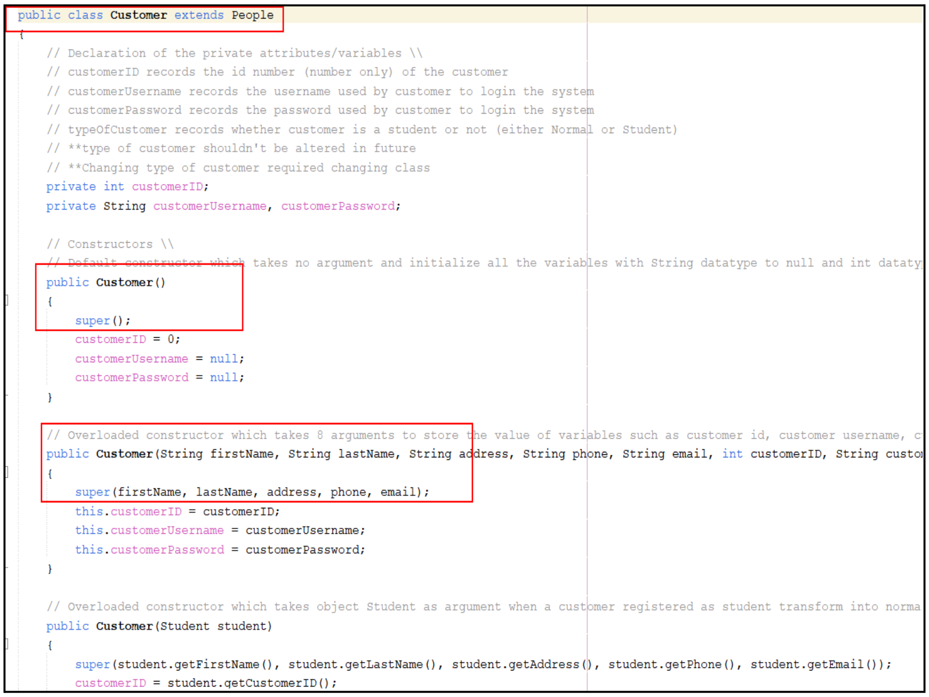
```
package gp6.gymmanagementapp;

public class Trainer extends People
{
    // Declaration of the private attributes/variables \\
    // trainerID records the id number (number only) of the trainer
    // trainerUsername records the username used by trainer to login the system
    // trainerPassword records the password used by trainer to login the system
    private int trainerID;
    private String trainerUsername, trainerPassword;

    // Constructors \\
    // Default constructor which takes no argument and initialize all the variables with String
    public Trainer()
    {
        super();
        trainerID = 0;
        trainerUsername = null;
        trainerPassword = null;
    }

    // Overloaded constructor which takes 8 arguments to store the value of variables such as t
    public Trainer(String firstName, String lastName, String address, String phone, String emai
    {
        super(firstName, lastName, address, phone, email);
        this.trainerID = trainerID;
        this.trainerUsername = trainerUsername;
        this.trainerPassword = trainerPassword;
    }

    // Mutator functions \\
    // Mutator function to set trainer ID number
    public void setTrainerID(int trainerID)
    {
        this.trainerID = trainerID;
    }
```

Figure 12: Using Keyword 'extends' To Extend the Class Trainer from Class People and Using Keyword 'super' to Invoke Constructors of Class People in the Constructors of Class Trainer



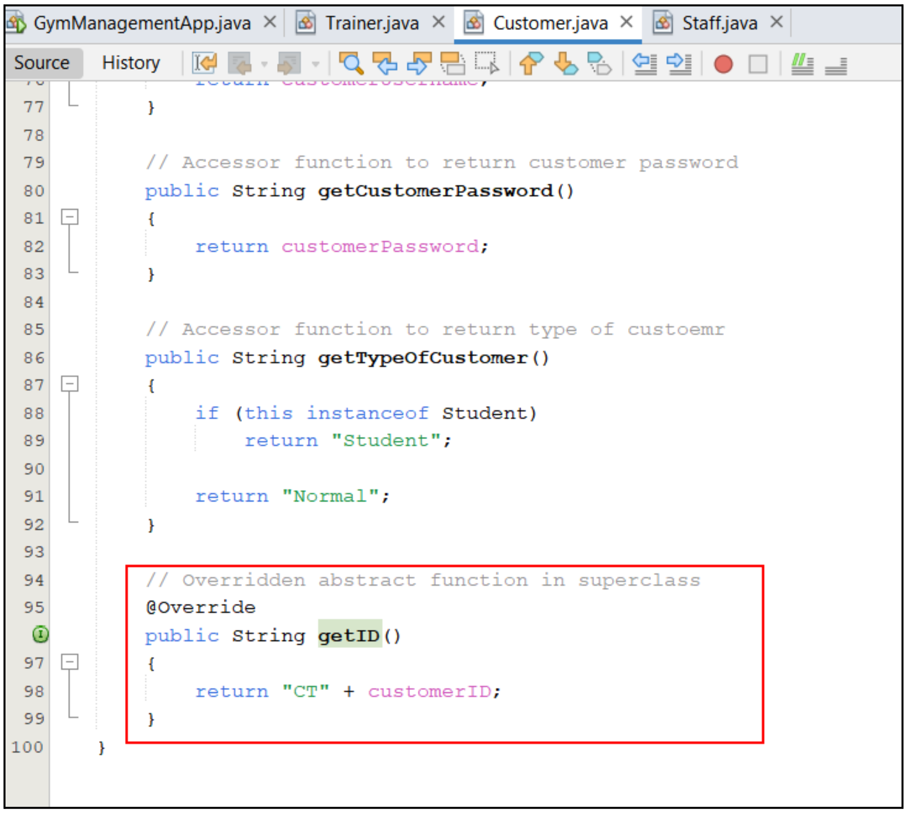
```
    // Accessor function to return trainer ID number
    public int getTrainerID()
    {
        return trainerID;
    }

    // Accessor function to return trainer username
    public String getTrainerUsername()
    {
        return trainerUsername;
    }

    // Accessor function to return trainer password
    public String getTrainerPassword()
    {
        return trainerPassword;
    }

    // Overridden abstract function in superclass
    @Override
    public String getID()
    {
        return "TR" + trainerID;
    }
}
```

Figure 13: Overriding Abstract Method getID() from Class People in Class Trainer



```
public class Customer extends People
{
    // Declaration of the private attributes/variables \\
    // customerID records the id number (number only) of the customer
    // customerUsername records the username used by customer to login the system
    // customerPassword records the password used by customer to login the system
    // typeOfCustomer records whether customer is a student or not (either Normal or Student)
    // **type of customer shouldn't be altered in future
    // **Changing type of customer required changing class
    private int customerID;
    private String customerUsername, customerPassword;

    // Constructors \\
    // Default constructor which takes no argument and initialize all the variables with String datatype to null and int datatyp
    public Customer()
    {
        super();
        customerID = 0;
        customerUsername = null;
        customerPassword = null;
    }

    // Overloaded constructor which takes 8 arguments to store the value of variables such as customer id, customer username, c
    public Customer(String firstName, String lastName, String address, String phone, String email, int customerID, String custom
    {
        super(firstName, lastName, address, phone, email);
        this.customerID = customerID;
        this.customerUsername = customerUsername;
        this.customerPassword = customerPassword;
    }

    // Overloaded constructor which takes object Student as argument when a customer registered as student transform into norma
    public Customer(Student student)
    {
        super(student.getFirstName(), student.getLastName(), student.getAddress(), student.getPhone(), student.getEmail());
        customerID = student.getCustomerID();
```

Figure 14: Using Keyword 'extends' To Extend the Class Customer from Class People and Using Keyword 'super' to Invoke Constructors of Class People in the Constructors of Class Customer

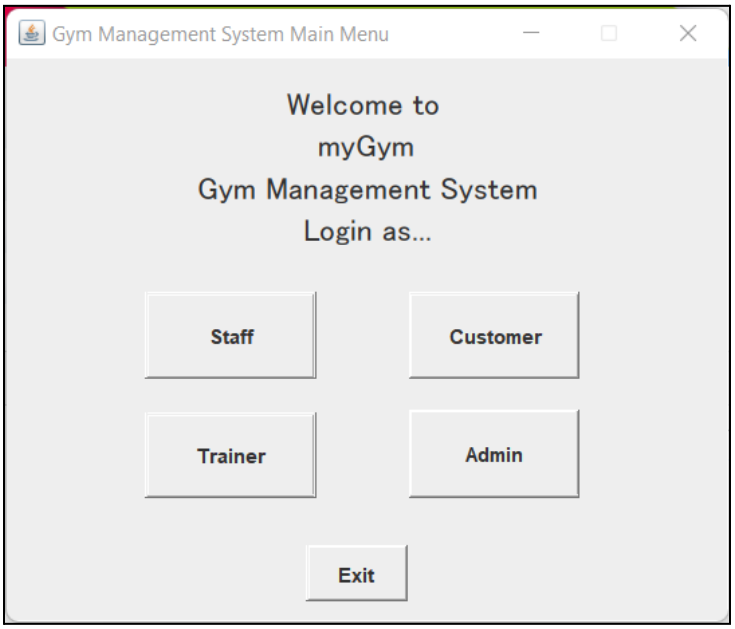


```
        return customerUsername;
    }

    // Accessor function to return customer password
    public String getCustomerPassword()
    {
        return customerPassword;
    }

    // Accessor function to return type of custoemr
    public String getTypeOfCustomer()
    {
        if (this instanceof Student)
            return "Student";

        return "Normal";
    }

    // Overridden abstract function in superclass
    @Override
    public String getID()
    {
        return "CT" + customerID;
    }
}
```

Figure 15: Overriding Abstract Method getID() from Class People in Class Customer

GUI

6.1 Main Menu



Gym Management System Main Menu

Welcome to
myGym
Gym Management System
Login as...

Figure 16: GUI of Main Menu when Opening the Application

The GUI of the main menu of the Gym Management System has a welcome text for the users who are using the application. The main menu provides four buttons for users to select their role to enter the system, which are staff, customer, trainer and admin and another button which is used to exit the application. Clicking on the four buttons that allow users to select their role will direct the users to the login menu.

6.2 Login Menu (Dynamic)

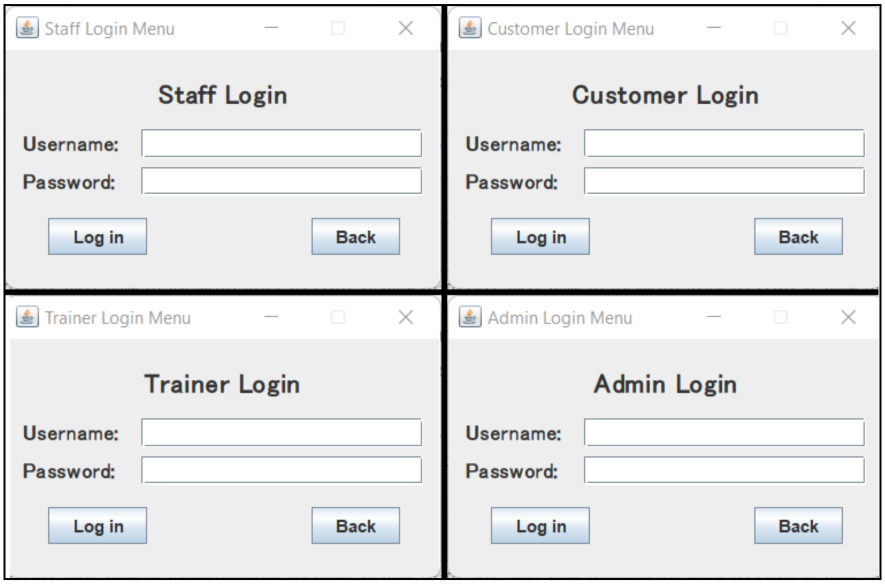
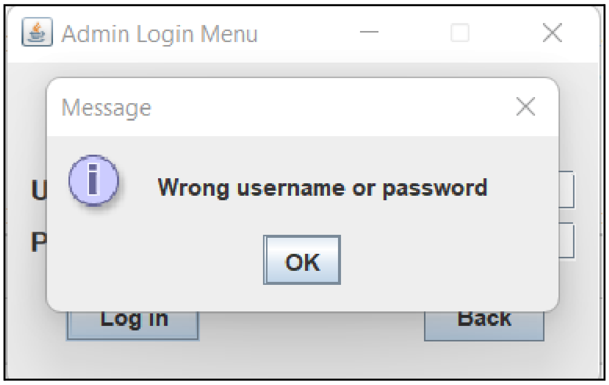


Figure 17: GUI of Login Menu after Selecting a Role in Main Menu (Top Left: Staff Role; Top Right: Customer Role; Bottom Left: Trainer Role; Bottom Right: Admin Role)

The figure above shows the GUI of the login menu based on the role selected by users in the main menu. The login menu provides two fields for users to input their login details where one field is for user to input username whereas the other field (text hide) is for user to input their password. The login menu also provide two buttons, which are “Log in” an “Back”. The “Back” button will return user to the main menu whereas “Log in” button will submit the login details inputted by the users and check whether there exists the corresponded combination of username and password inputted by the users in the data in the system. Successful login will direct the users to the main menu of the role they selected. The figure below shows the error message when users input incorrect username and password.

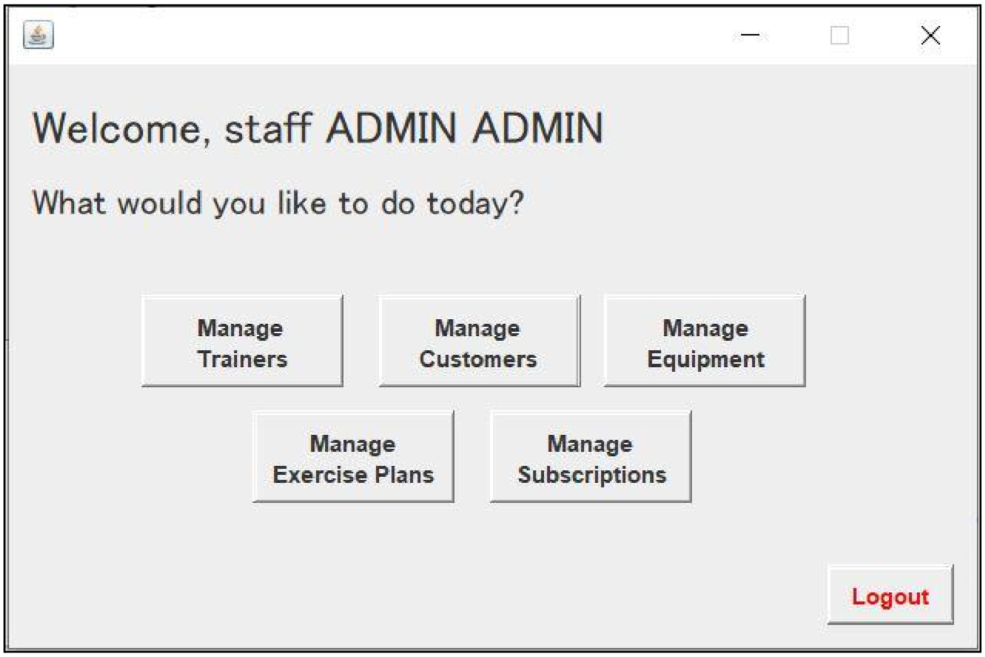


Wrong username or password

Figure 18: Error Message when Incorrect Username or Password is Entered

Clicking on the “OK” button will close the error message and allow the users to re-enter the login details in the login menu.

6.3 Staff Main Menu

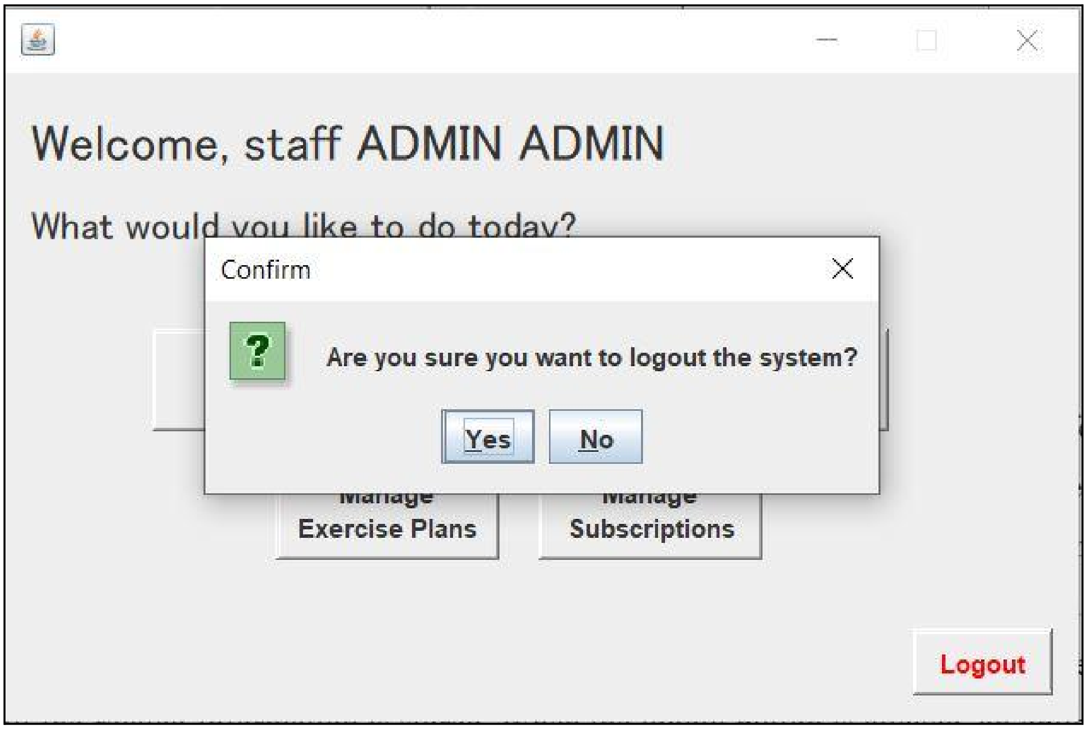


Welcome, staff ADMIN ADMIN

What would you like to do today?

Figure 19: GUI of Staff Main Menu after Successful Login

The GUI of the staff main menu of the Gym Management System has a welcome text for the staff who are using the application. This main menu provides five buttons for staff to select which data to manage, which are trainers, customers, equipment, exercise plans and subscriptions and another button which is used to logout from the page and close the application. Clicking on the five buttons except the logout button will allow staff to directly open the page where all the related information is stored. When the logout button is clicked, an option message will be displayed to let staff confirm their logout option.



Welcome, staff ADMIN ADMIN

What would you like to do today?

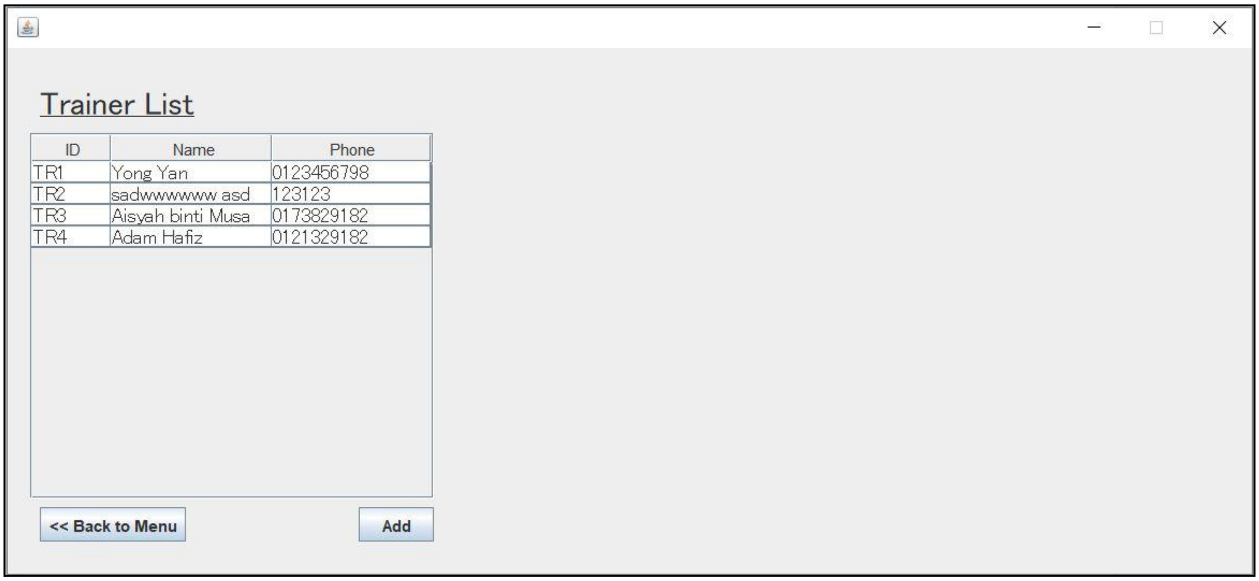
Confirm

Are you sure you want to logout the system?

Figure 20: Option Message when logout button is clicked

If the staff clicks yes, this page will be closed and the user will be directed back to the main menu page. If the staff clicks no, it will close the message window and the user will remain on the same page.

6.4 Manage Trainer Page (Staff / Admin)

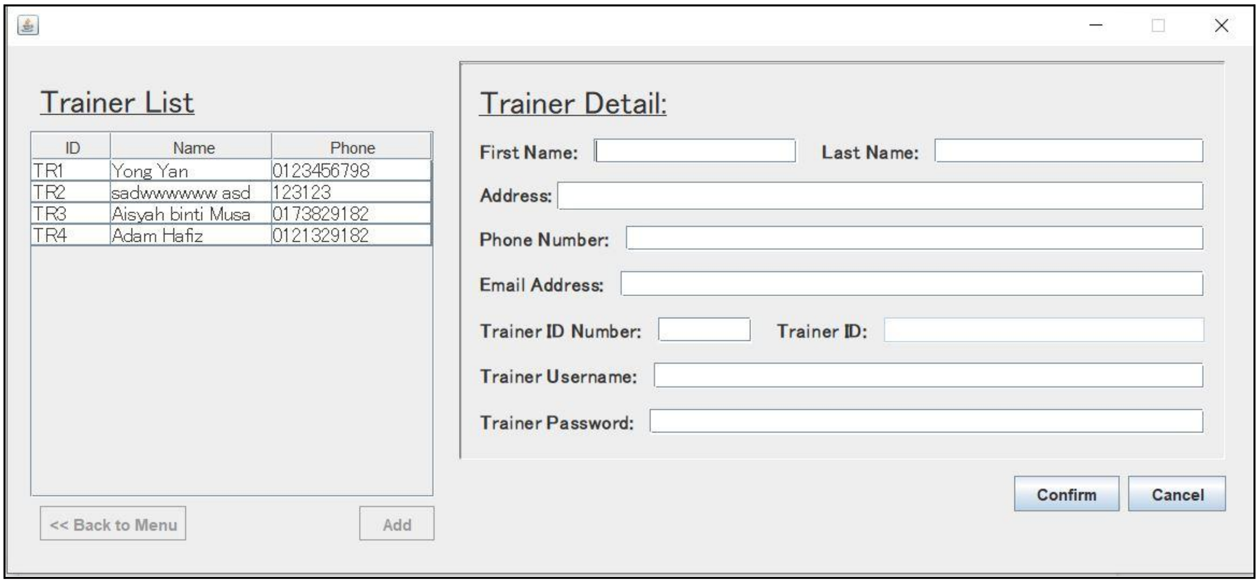


Trainer List

ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwwww asd	123123
TR3	Aisyah binti Musa	0173829182
TR4	Adam Hafiz	0121329182

Figure 21: Manage Trainer Page when Staff or Admin Click the "Manage Trainers" Button

The page will display a trainers list with trainer's ID, name and phone that currently exists in a table form in the left panel of the page. There are 2 buttons under the table which are the "Back to Menu" button and "Add" button. When the user clicks the "Back to Menu" button, the user will be directed back to the staff main menu page. If the user clicks the "Add" button, a panel form will appear on the right side of the page, allowing the user to add another trainer data into the system. The form will enable the user to enter all the information related to the new trainer into the related fields.

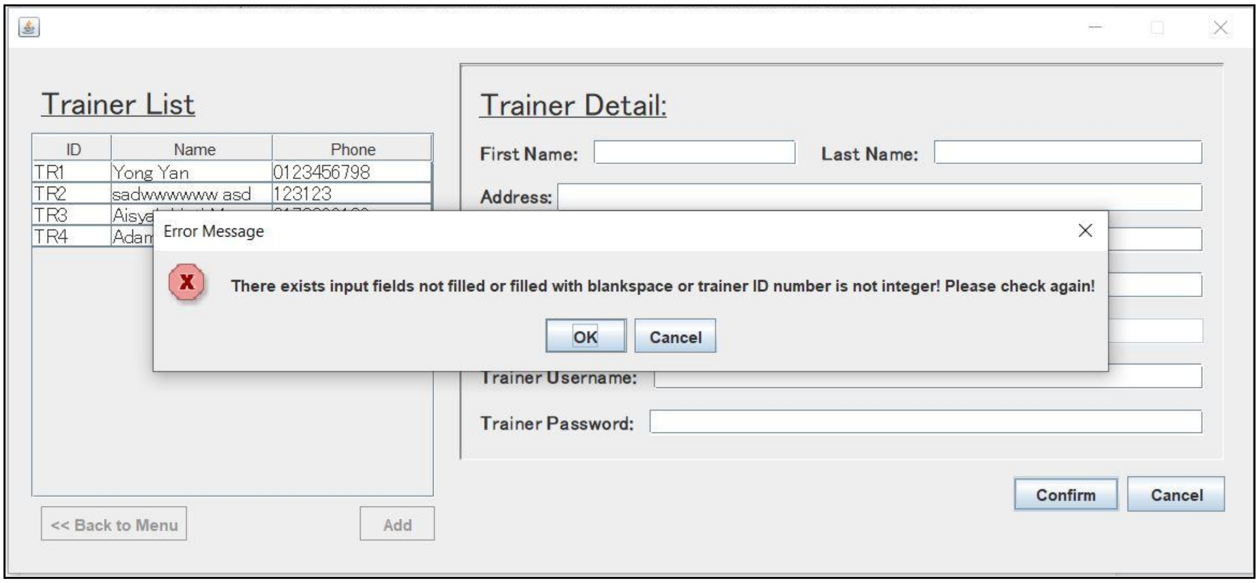


Trainer List

ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwww asd	123123
TR3	Aisyah binti Musa	0173829182
TR4	Adam Hafiz	0121329182

Figure 22: Manage Trainer Page when Staff or Admin Clicks "Add" Button

After the user clicks the "Add" button, the other 2 buttons that mentioned earlier will be disabled until the user finishes the add data process. There will be another 2 buttons in the adding form panel which are "Confirm" button and "Cancel" button. If the user clicks the "Cancel" button, the page will return to the status before the user clicks the "Add" button. If user clicks confirm with input fields not filled or filled with blank space or trainer ID number is not integer, an error message will be displayed and user can click ok or cancel to close the window and re-enter the trainer information.



Trainer List

ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwwww asd	123123
TR3	Aisya	
TR4	Adam	

Trainer Detail:

First Name: Last Name:

Address:

Trainer Username:

Trainer Password:

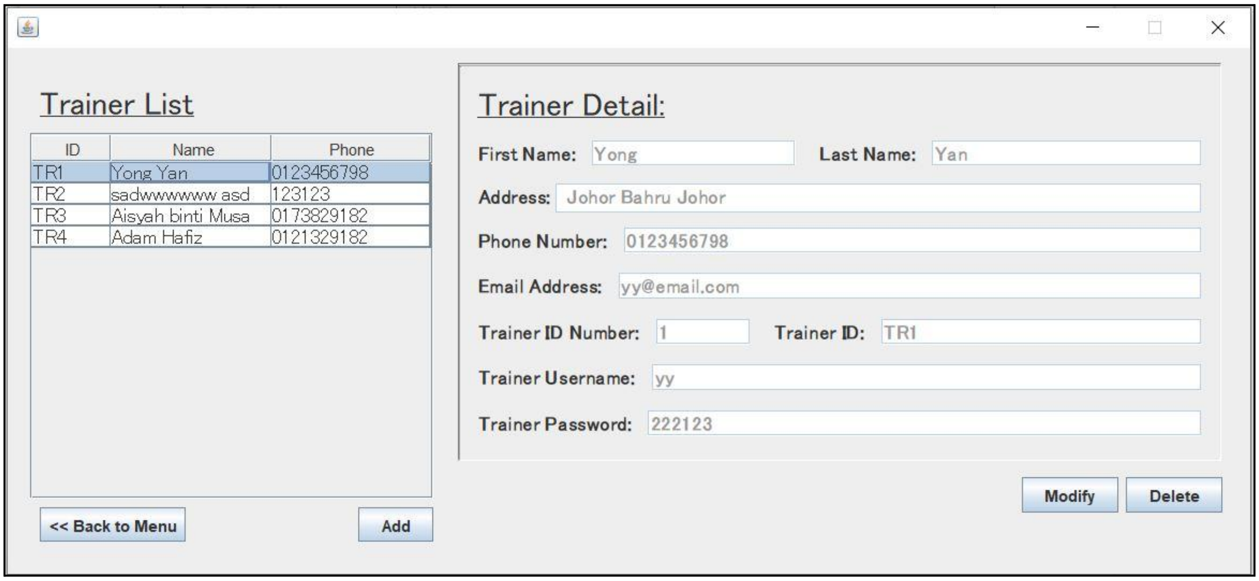
Error Message

There exists input fields not filled or filled with blankspace or trainer ID number is not integer! Please check again!

Figure 23: Error Message when User Clicks Confirm with Input Fields Not Filled or Filled with Blank Space or Trainer ID Number Is Not Integer

If the user inputs the correct format in all related fields and clicks the "Confirm" button, the new trainer information will be displayed in the list table.

Users can also modify the existing data in this page. When a user selects a row of data in the table list, the information about the data row will be displayed on the right side of the page.



Trainer List

ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwwww asd	123123
TR3	Aisyah binti Musa	0173829182
TR4	Adam Hafiz	0121329182

Trainer Detail:

First Name: Yong Last Name: Yan

Address: Johor Bahru Johor

Phone Number: 0123456798

Email Address: yy@email.com

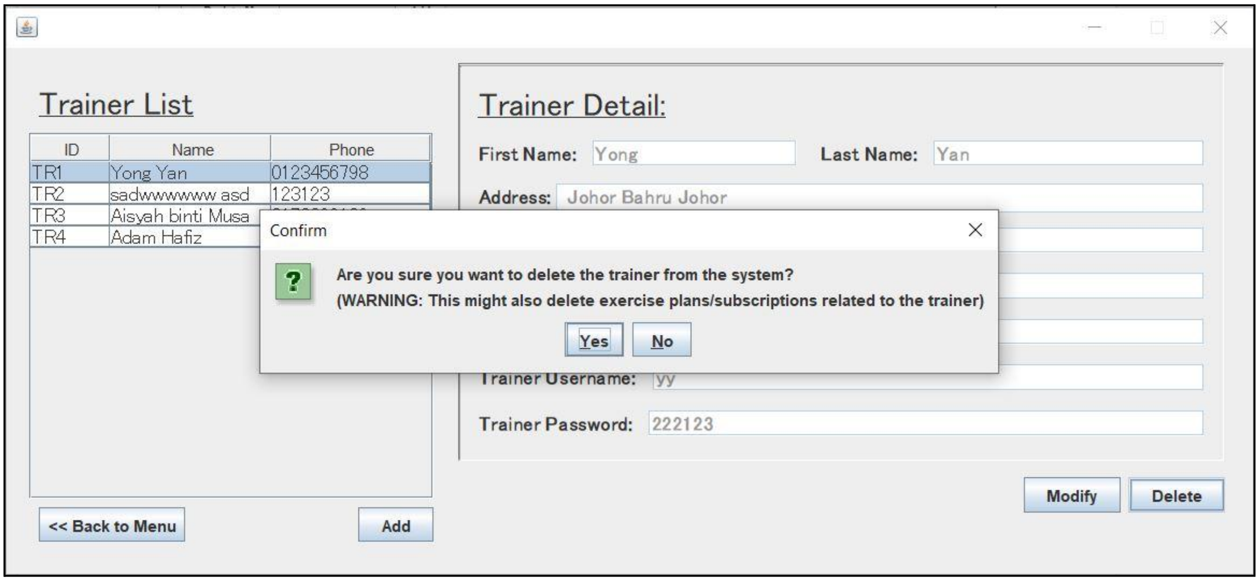
Trainer ID Number: 1 Trainer ID: TR1

Trainer Username: yy

Trainer Password: 222123

Figure 24: Manage Trainer Page when Staff or Admin Select a Row in the Trainer List Table

There are 2 buttons in this case which are the “Modify” button and “Delete” button. The “Delete” button will delete the selected trainer data in the system. A confirm message will pop up upon clicking the “Delete” button. If the user clicks yes, the data will be deleted , if the user clicks no, it will remain on the same page and the data will not be deleted.



Trainer List

ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwww asd	123123
TR3	Aisyah binti Musa	
TR4	Adam Hafiz	

Trainer Detail:

First Name: Yong Last Name: Yan

Address: Johor Bahru Johor

Trainer Username: yy

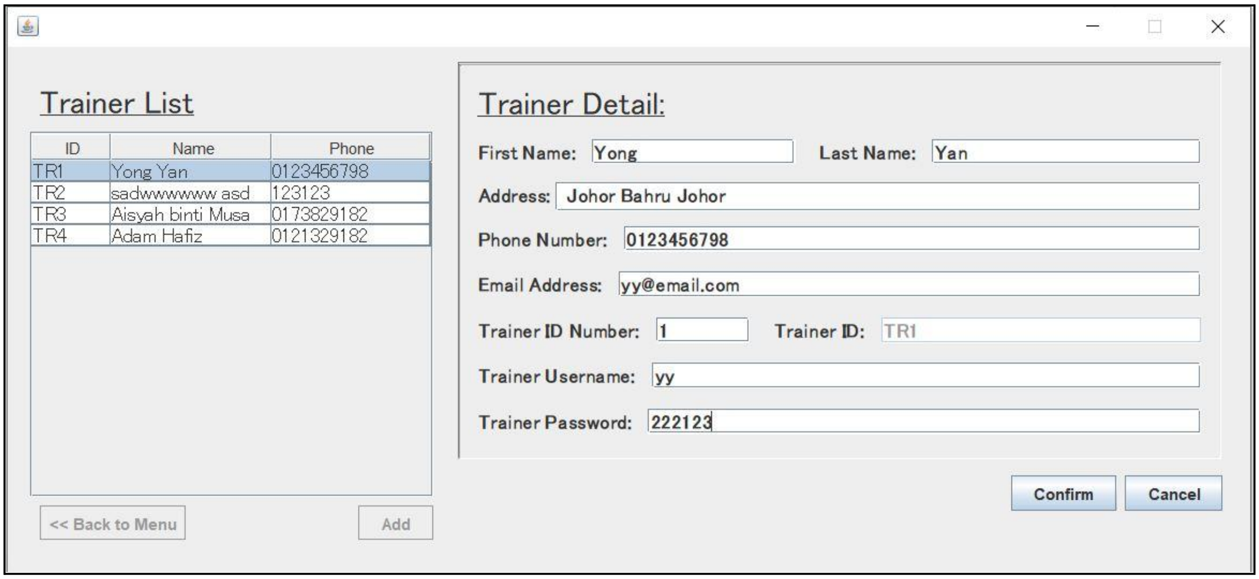
Trainer Password: 222123

Confirm

Are you sure you want to delete the trainer from the system?
(WARNING: This might also delete exercise plans/subscriptions related to the trainer)

Figure 25: Confirm Message when User Clicks “Delete” Button

In Figure 25, we can see that all the input fields are disabled. However, if the user clicks the “Modify” button, the input fields will be enabled and the user can modify the current trainer information by inputting the new information. At the same time, “Back to Menu” and “Add” buttons will be disabled.



Trainer List

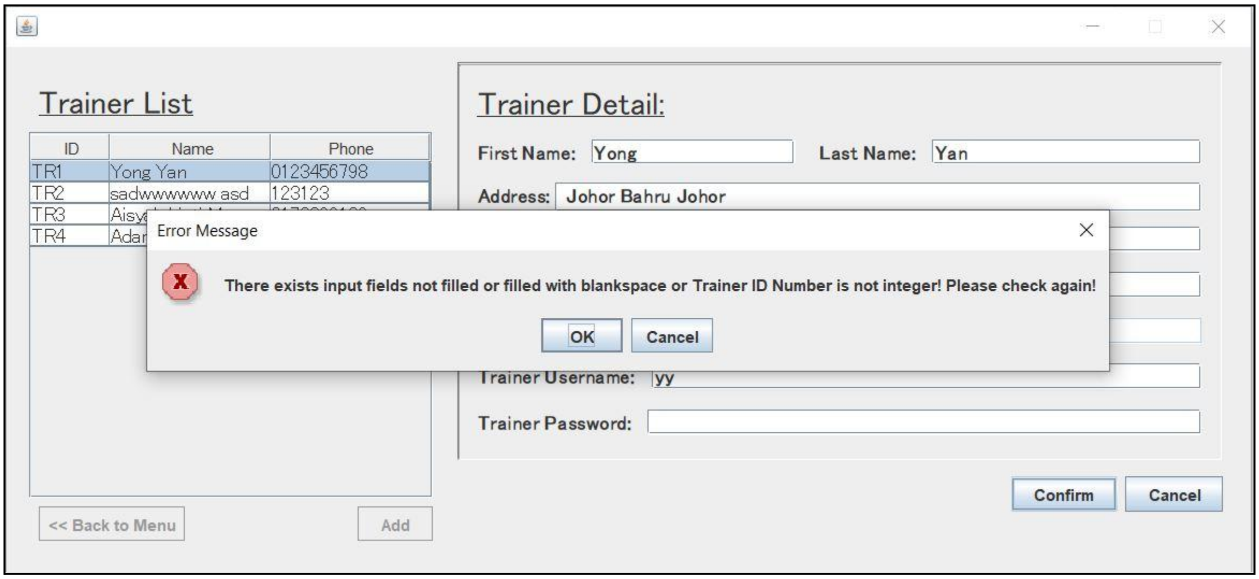
ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwww asd	123123
TR3	Aisyah binti Musa	0173829182
TR4	Adam Hafiz	0121329182

Trainer Detail:

First Name: Yong
Last Name: Yan
Address: Johor Bahru Johor
Phone Number: 0123456798
Email Address: yy@email.com
Trainer ID Number: 1
Trainer ID: TR1
Trainer Username: yy
Trainer Password: 222123

Figure 26: Manage Trainer Page after User Clicks "Modify" Button

In this page, users can re-enter the new information for the selected trainer and after that click the "Confirm" button to update the information in the system. However, if there are input fields not filled or filled with blank space or trainer ID number is not integer and the user clicks the "Confirm" button in this situation, an error message will appear. Users can click ok to exit the message and continue to enter data in the correct format.



Trainer List

ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwww asd	123123
TR3	Aisy	
TR4	Adar	

Trainer Detail:

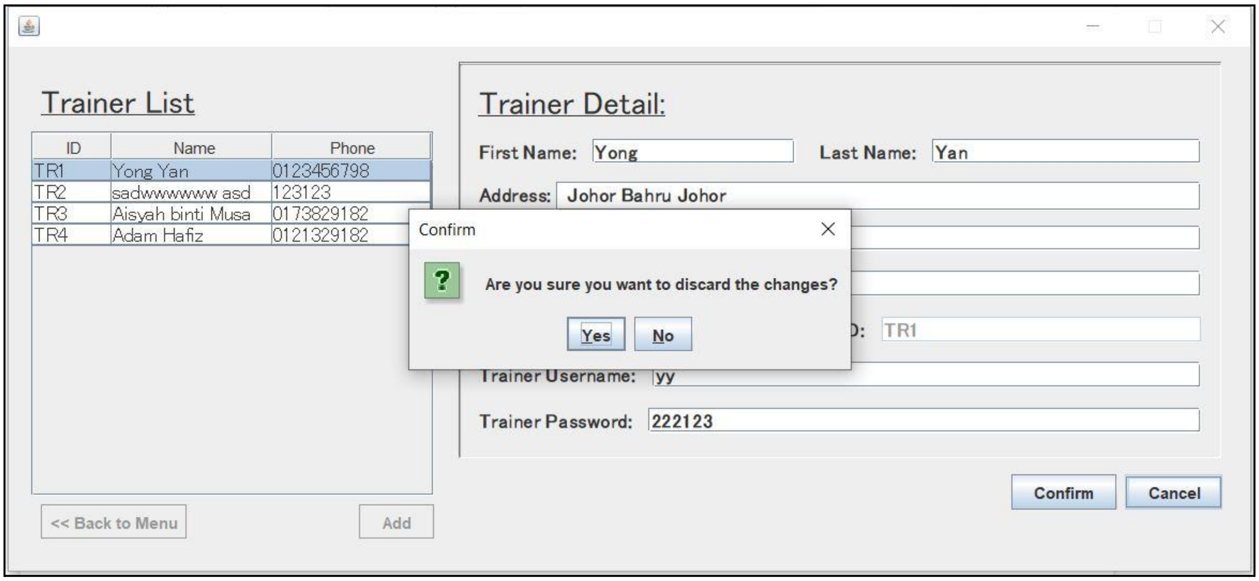
First Name: Yong
Last Name: Yan
Address: Johor Bahru Johor
Trainer Username: yy
Trainer Password:

Error Message

There exists input fields not filled or filled with blankspace or Trainer ID Number is not integer! Please check again!

Figure 27: Error Message when User Clicks Confirm with Input Fields Not Filled or Filled with Blank Space or Trainer ID Number Is Not Integer

The user can also cancel the modifying process by clicking the “Cancel” button as shown in Figure 28. After clicking the button, a confirm message will be displayed.



Trainer List

ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwww asd	123123
TR3	Aisyah binti Musa	0173829182
TR4	Adam Hafiz	0121329182

Trainer Detail:

First Name: Yong

Last Name: Yan

Address: Johor Bahru Johor

D: TR1

Trainer Username: yy

Trainer Password: 222123

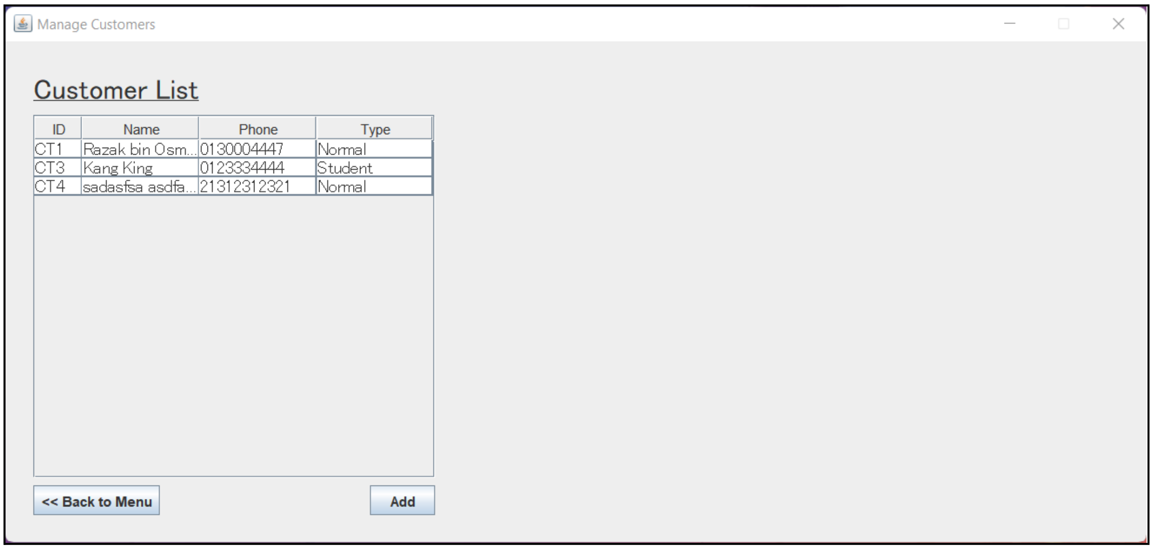
Confirm

Are you sure you want to discard the changes?

Figure 28: Confirm Message when User Clicks “Cancel” Button

If the user clicks yes, the changes will be discarded and the page will return to the status as shown in Figure 28. If the user clicks no, the users can continue the trainer data modifying process.

6.5 Manage Customer Page (Staff / Admin)



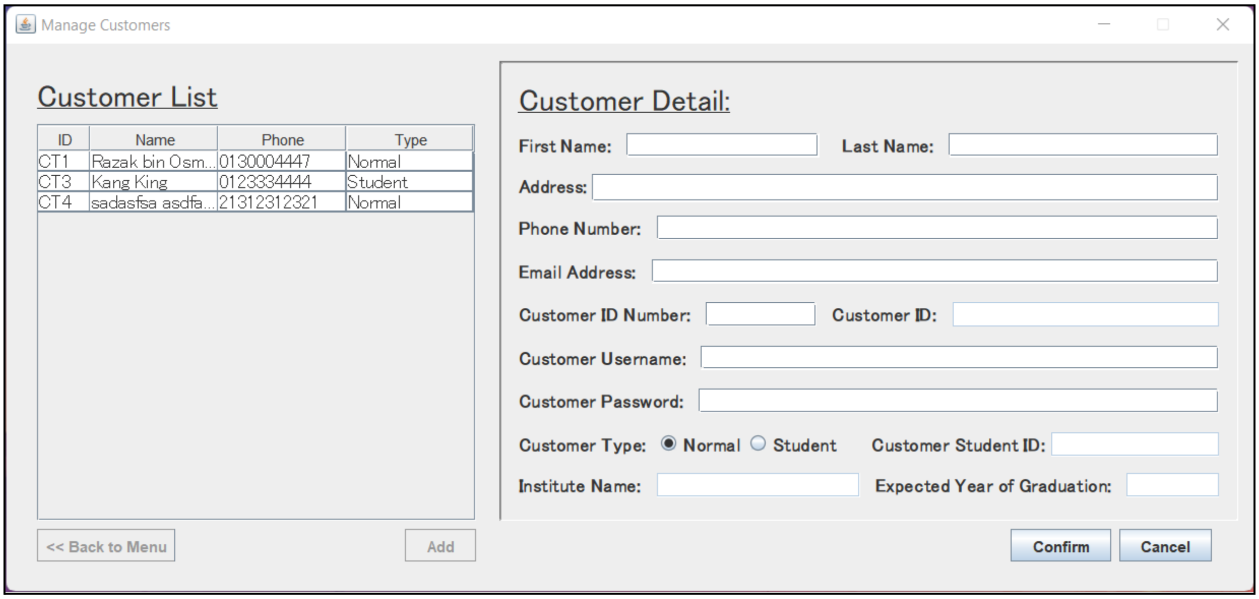
Manage Customers

Customer List

ID	Name	Phone	Type
CT1	Razak bin Osm...	0130004447	Normal
CT3	Kang King	0123334444	Student
CT4	sadasfsa asdfa...	21312312321	Normal

Figure 29: Manage Customer Page when Staff or Admin Click the “Manage Customers” Button

The page will display a customer list with customer's ID, name, phone and type of customer that currently exists in a table form in the left panel of the page. Similar to the manage trainer, the "Back to Menu" button and "Add" button also existed in the page and perform the same functions as in the manage trainer page.

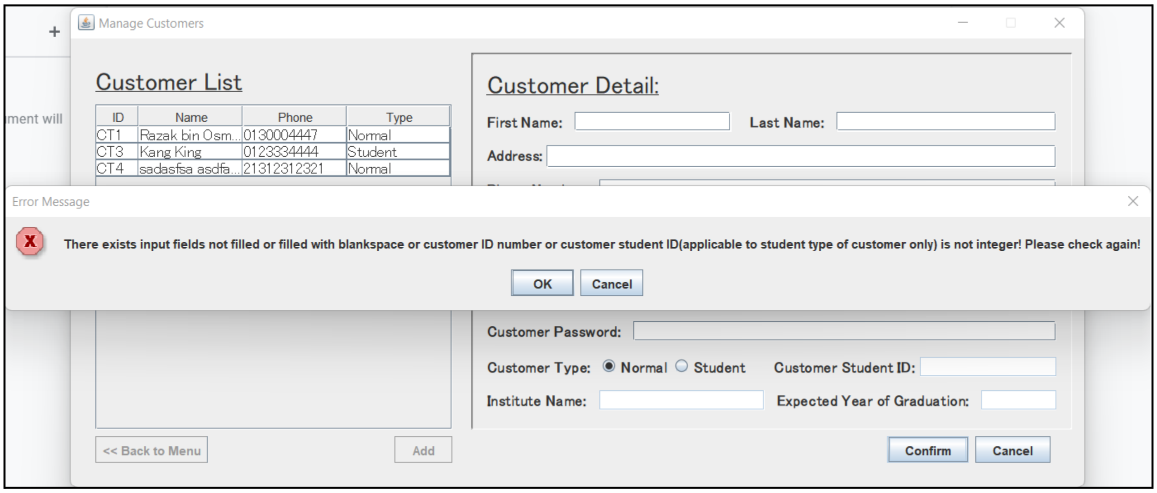


ID	Name	Phone	Type
CT1	Razak bin Osm...	0130004447	Normal
CT3	Kang King	0123334444	Student
CT4	sadasfsa asdfa...	21312312321	Normal

Customer Type: ● Normal ○ Student

Figure 30: Manage Customer Page when Staff or Admin Clicks "Add" Button

Same as the manage trainer page, a form will be displayed for the user to enter the related information. The user can either click the "Cancel" button to dispose the form and enable the "Back to Menu" and "Add" buttons as well as the selection of customers in the list or click the "Confirm" button and add the new customer data to the system after completing all the details. The "Confirm" button also has the data checking feature which validates the user input and will prompt an error message if the inputs are invalid.



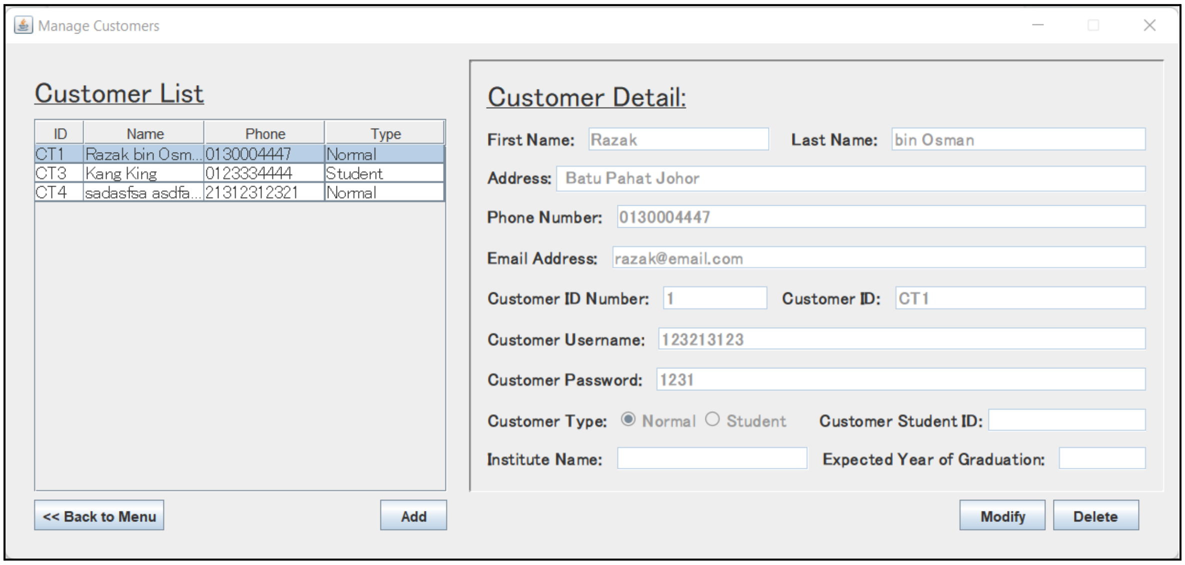
ID	Name	Phone	Type
CT1	Razak bin Osm...	0130004447	Normal
CT3	Kang King	0123334444	Student
CT4	sadasfsa asdfa...	21312312321	Normal

Error Message

There exists input fields not filled or filled with blankspace or customer ID number or customer student ID(applicable to student type of customer only) is not integer! Please check again!

Figure 31: Error Message when User Clicks Confirm with Input Fields Not Filled or Filled with Blank Space or Customer ID Number or Student ID Is Not Integer

Users can also modify the existing data in this page. When a user selects a row of data in the table list, the information about the data row will be displayed on the right side of the page.

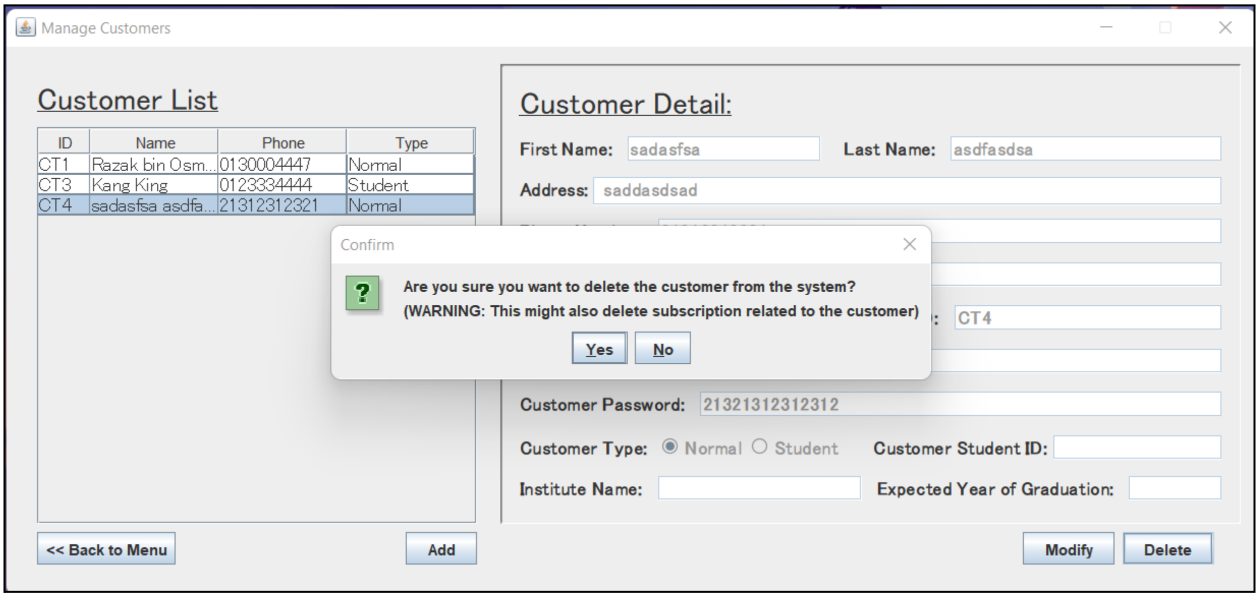


ID	Name	Phone	Type
CT1	Razak bin Osm...	0130004447	Normal
CT3	Kang King	0123334444	Student
CT4	sadasfsa asdfa...	21312312321	Normal

First Name: Razak Last Name: bin Osman
Address: Batu Pahat Johor
Phone Number: 0130004447
Email Address: razak@email.com
Customer ID Number: 1 Customer ID: CT1
Customer Username: 123213123
Customer Password: 1231
Customer Type: ● Normal ○ Student Customer Student ID:
Institute Name: Expected Year of Graduation:

Figure 32: Manage Customer Page when Staff or Admin Select a Row in the Customer List Table

Same as the manage trainer page, the "Delete" button will delete the selected customer data in the system and show a confirm message to ensure that the user really want to delete the data.



Customer List

ID	Name	Phone	Type
CT1	Razak bin Osm...	0130004447	Normal
CT3	Kang King	0123334444	Student
CT4	sadasfsa asdfa...	21312312321	Normal

Customer Detail:

First Name: sadasfsa Last Name: asdfasdsa

Address: saddasdsad

: CT4

Customer Password: 21321312312312

Customer Type: ● Normal ○ Student Customer Student ID:

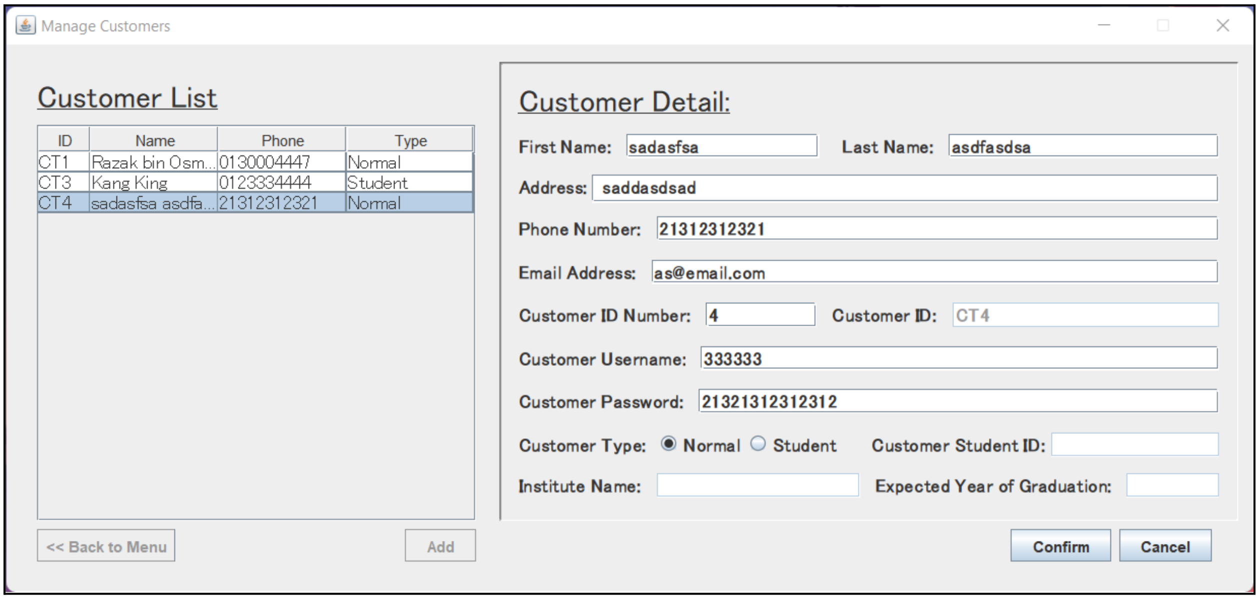
Institute Name: Expected Year of Graduation:

Confirm

Are you sure you want to delete the customer from the system?
(WARNING: This might also delete subscription related to the customer)

Figure 33: Confirm Message when User Clicks "Delete" Button

The "Modify" button will allow the user to change the data by enabling related input fields. At the same time, "Back to Menu" and "Add" buttons will be disabled.



Customer List

ID	Name	Phone	Type
CT1	Razak bin Osm...	0130004447	Normal
CT3	Kang King	0123334444	Student
CT4	sadasfsa asdfa...	21312312321	Normal

Customer Detail:

First Name: sadasfsa Last Name: asdfasdsa

Address: saddasdsad

Phone Number: 21312312321

Email Address: as@email.com

Customer ID Number: 4 Customer ID: CT4

Customer Username: 333333

Customer Password: 21321312312312

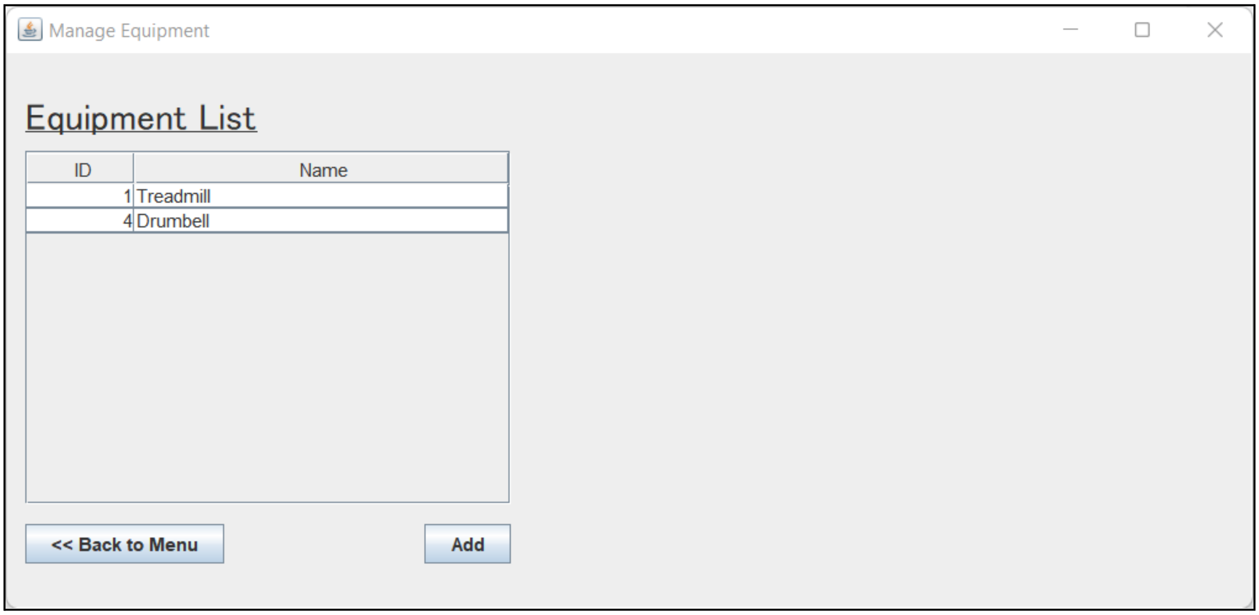
Customer Type: ● Normal ○ Student Customer Student ID:

Institute Name: Expected Year of Graduation:

Figure 34: Manage Customer Page after User Clicks "Modify" Button

In this page, users can re-enter the new information for the selected customer and after that click the "Confirm" button to update the information in the system. The validation of user input is similar to when adding new customer data to the system. The "Cancel" button is also similar to the add customer data part.

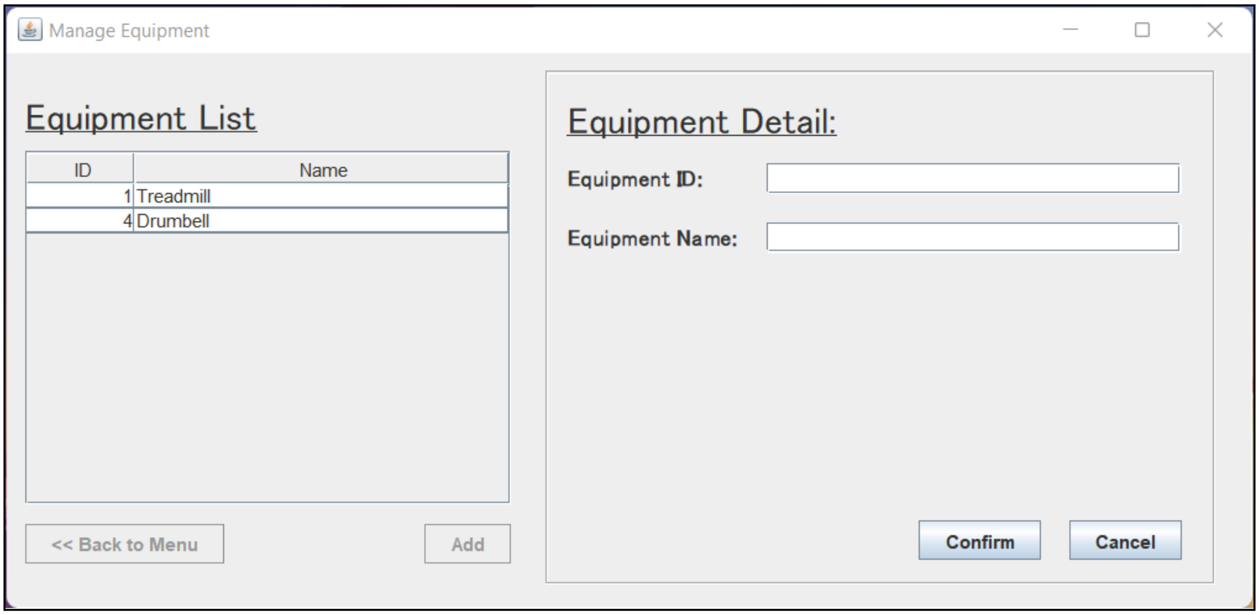
6.6 Manage Equipment Page (Staff / Admin)



ID	Name
1	Treadmill
4	Drumbell

Figure 35: Manage Equipment Page when Staff or Admin Click the "Manage Equipment" Button

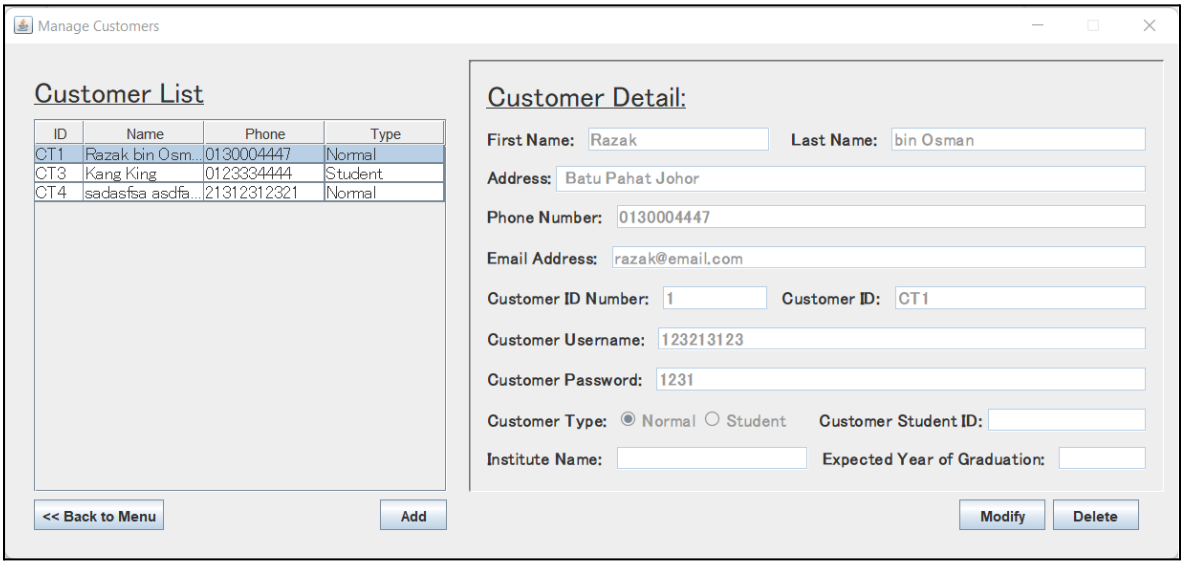
The page will display an equipment list with equipment's ID and name that currently exists in a table form in the left panel of the page. Similar to the manage customer, the "Back to Menu" button and "Add" button also existed in the page and perform the same functions as in the manage customer page.



ID	Name
1	Treadmill
4	Drumbell

Figure 36: Manage Equipment Page when Staff or Admin Clicks "Add" Button

Same as the manage customer page, a form will be displayed for the user to enter the related information. The user can either click the "Cancel" button to enable the "Back to Menu" and "Add" buttons and close the form panel or click the "Confirm" button and add the new equipment data to the system after completing all the details. The "Confirm" button also has the data checking feature which validates the user input and will prompt error messages if the inputs are invalid based on the condition not passed.



Customer List

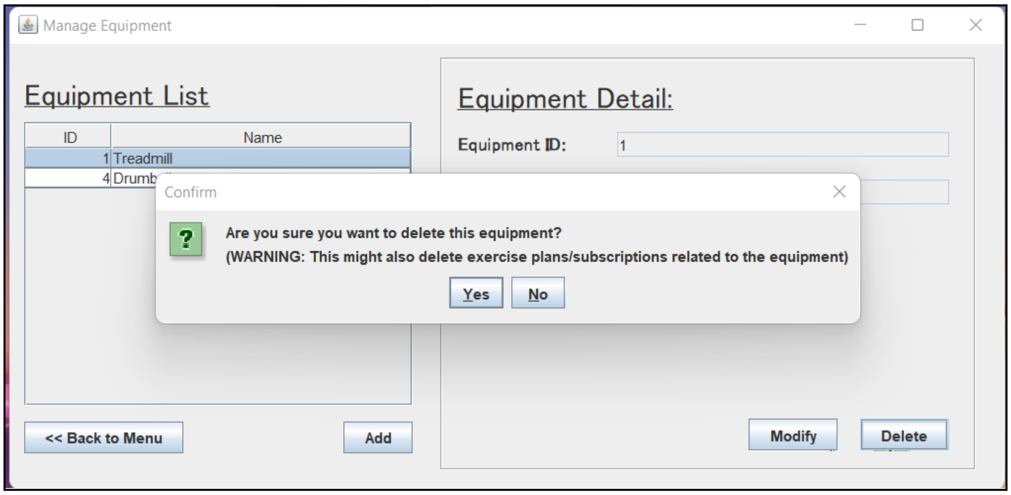
ID	Name	Phone	Type
CT1	Razak bin Osm...	0130004447	Normal
CT3	Kang King	0123334444	Student
CT4	sadasfsa asdfa...	21312312321	Normal

Customer Detail:

First Name: Razak
Last Name: bin Osman
Address: Batu Pahat Johor
Phone Number: 0130004447
Email Address: razak@email.com
Customer ID Number: 1
Customer ID: CT1
Customer Username: 123213123
Customer Password: 1231
Customer Type: ● Normal ○ Student
Customer Student ID:
Institute Name:
Expected Year of Graduation:

Figure 37: Manage Equipment Page when Staff or Admin Select a Row in the Equipment List Table

After a user selects a row of data in the table list, the information about the data row will be displayed on the right side of the page, the user can also modify the existing data in this page by clicking on "Modify" button. Same as the manage customer page, the "Delete" button will delete the selected equipment data in the system and show a confirm message to ensure that the user really wants to delete the data.



Equipment List

ID	Name
1	Treadmill
4	Drumb

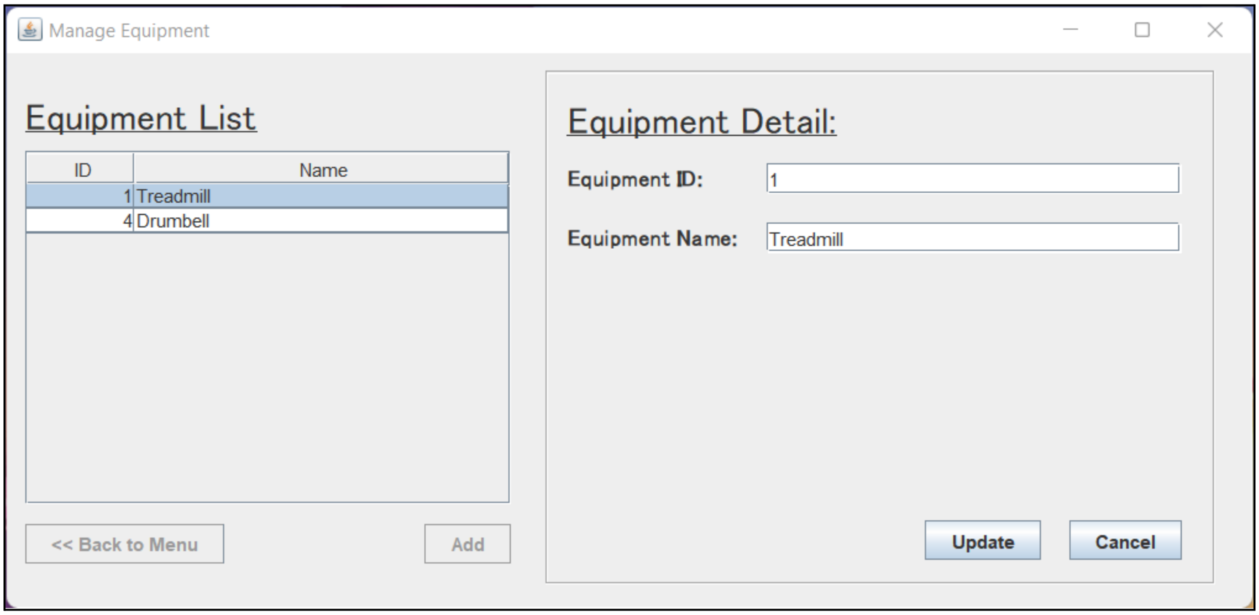
Equipment Detail:

Equipment ID: 1

Are you sure you want to delete this equipment?
(WARNING: This might also delete exercise plans/subscriptions related to the equipment)

Figure 38: Confirm Message when User Clicks "Delete" Button

The "Modify" button will allow the user to change the data by enabling related input fields. At the same time, "Back to Menu" and "Add" buttons will be disabled.



Equipment List

ID	Name
1	Treadmill
4	Drumbell

Equipment Detail:

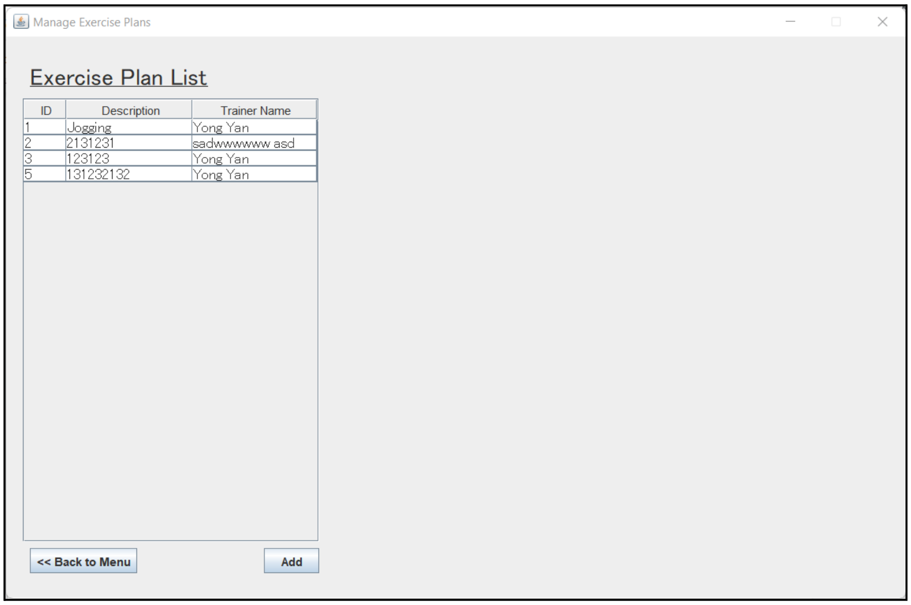
Equipment ID: 1

Equipment Name: Treadmill

Figure 39: Manage Equipment Page after User Clicks "Modify" Button

In this page, users can re-enter the new information for the selected equipment and after that click the "Update" button to update the information in the system. The validation of user input is similar to when adding new equipment data to the system. The "Cancel" button is also similar to the add equipment data part.

6.7 Manage Exercise Plans Page (Staff / Admin)

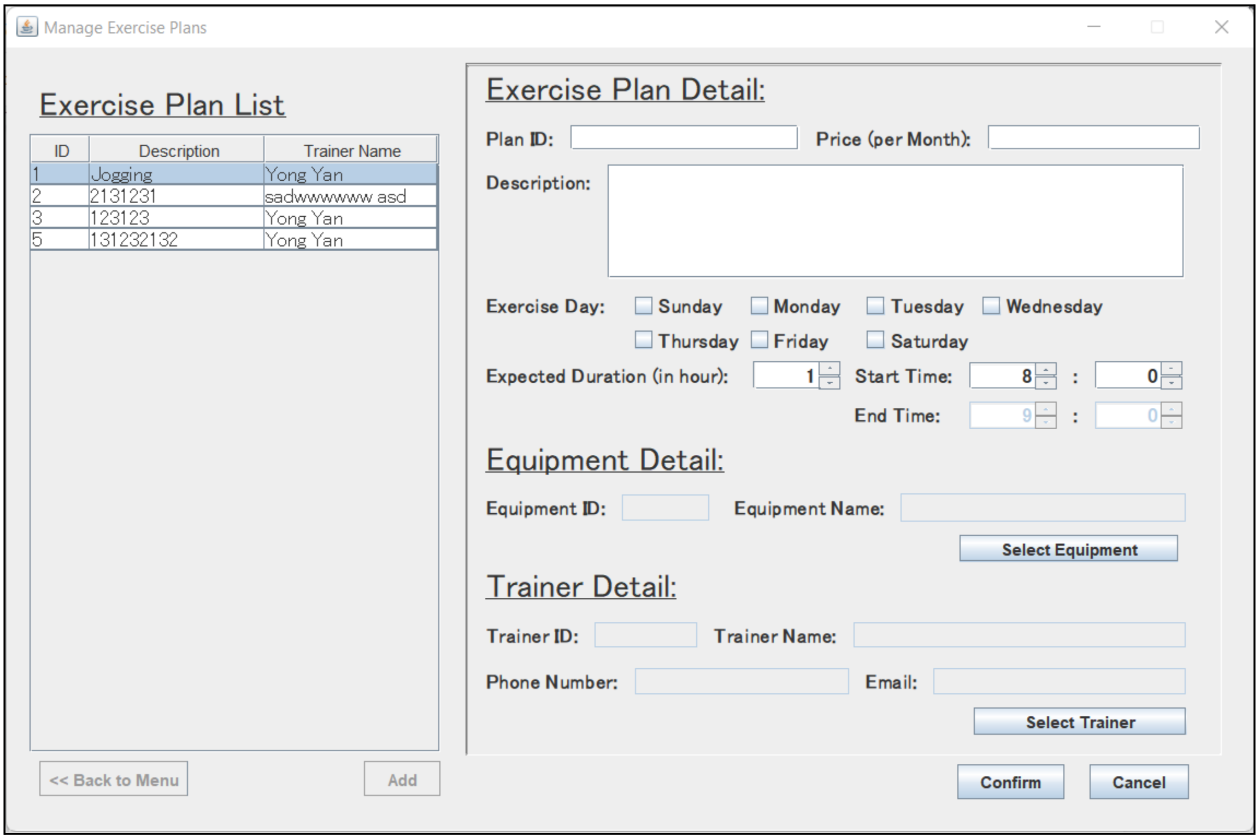


Exercise Plan List

ID	Description	Trainer Name
1	Jogging	Yong Yan
2	2131231	sadwwwwww asd
3	123123	Yong Yan
5	131232132	Yong Yan

Figure 40: Manage Exercise Plan Page when Staff or Admin Click the "Manage Exercise Plans" Button

The page will display an exercise plan list with exercise plan's ID, description and trainer name that currently exists in a table form in the left panel of the page. Similar to the manage customer, the "Back to Menu" button and "Add" button also existed in the page and perform the same functions as in the manage customer page.



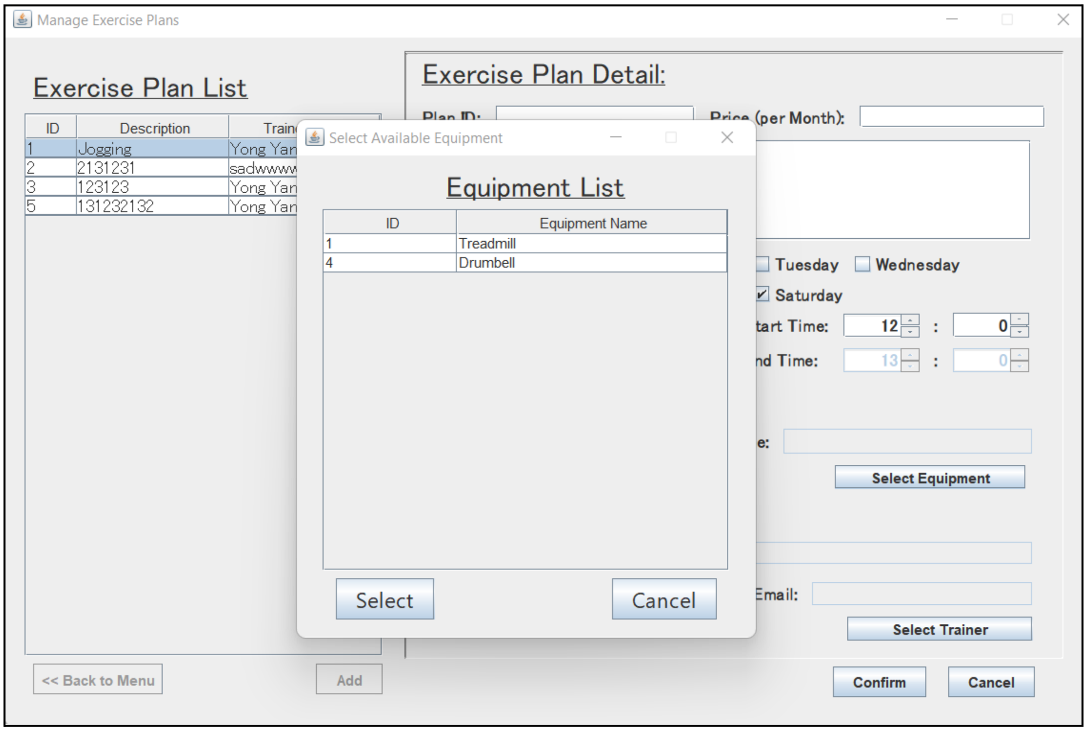
ID	Description	Trainer Name
1	Jogging	Yong Yan
2	2131231	sadwwwwww asd
3	123123	Yong Yan
5	131232132	Yong Yan

Expected Duration (in hour): 1 Start Time: 8 : 0

End Time: 9 : 0

Figure 41: Manage Exercise Plan Page when Staff or Admin Clicks "Add" Button

Same as the manage customer page, a form will be displayed for the user to enter the related information. The user can either click the "Cancel" button to enable the "Back to Menu" and "Add" buttons and close the form panel or click the "Confirm" button and add the new exercise plan data to the system after completing all the details. The "Confirm" button also has the data checking feature which validates the user input and will prompt error messages if the inputs are invalid. Besides that, the form itself also has another two unique buttons which are the "Select Equipment" button and "Select Trainer" button. "Select Equipment" button enables the user to select the available equipment during the selected day and time period. Therefore, at least one of the exercise days should be checked before using this button. The "Select Trainer" button allows the user to select a trainer from the system as the trainer of the exercise plan and the button does not have any pre-requisite condition.



Exercise Plan List

ID	Description	Train
1	Jogging	Yong Yan
2	2131231	sadwwww
3	123123	Yong Yan
5	131232132	Yong Yan

Exercise Plan Detail:

Plan ID:

Price (per Month):

□ Tuesday □ Wednesday

☑ Saturday

tart Time: 12 : 0

nd Time: 13 : 0

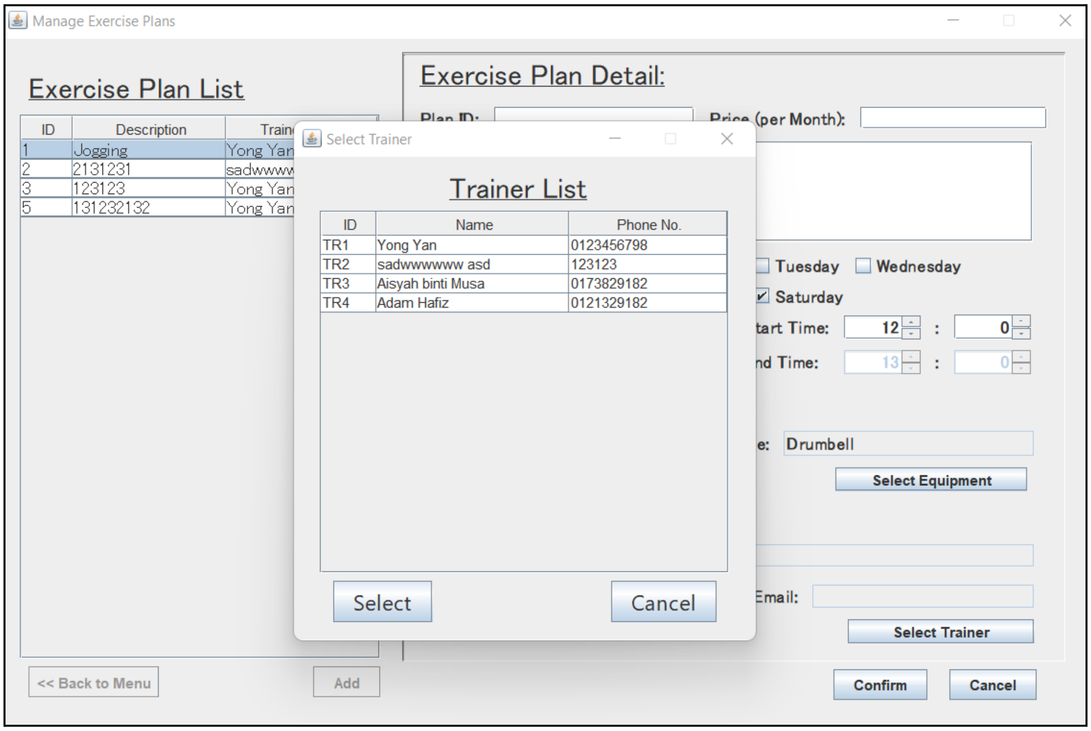
e:

Email:

Equipment List

ID	Equipment Name
1	Treadmill
4	Drumbell

Figure 42: Select Equipment Window when Staff or Admin Clicks "Select Equipment" Button



Exercise Plan List

ID	Description	Train
1	Jogging	Yong Yan
2	2131231	sadwwww
3	123123	Yong Yan
5	131232132	Yong Yan

Exercise Plan Detail:

Plan ID:

Price (per Month):

□ Tuesday □ Wednesday

☑ Saturday

tart Time: 12 : 0

nd Time: 13 : 0

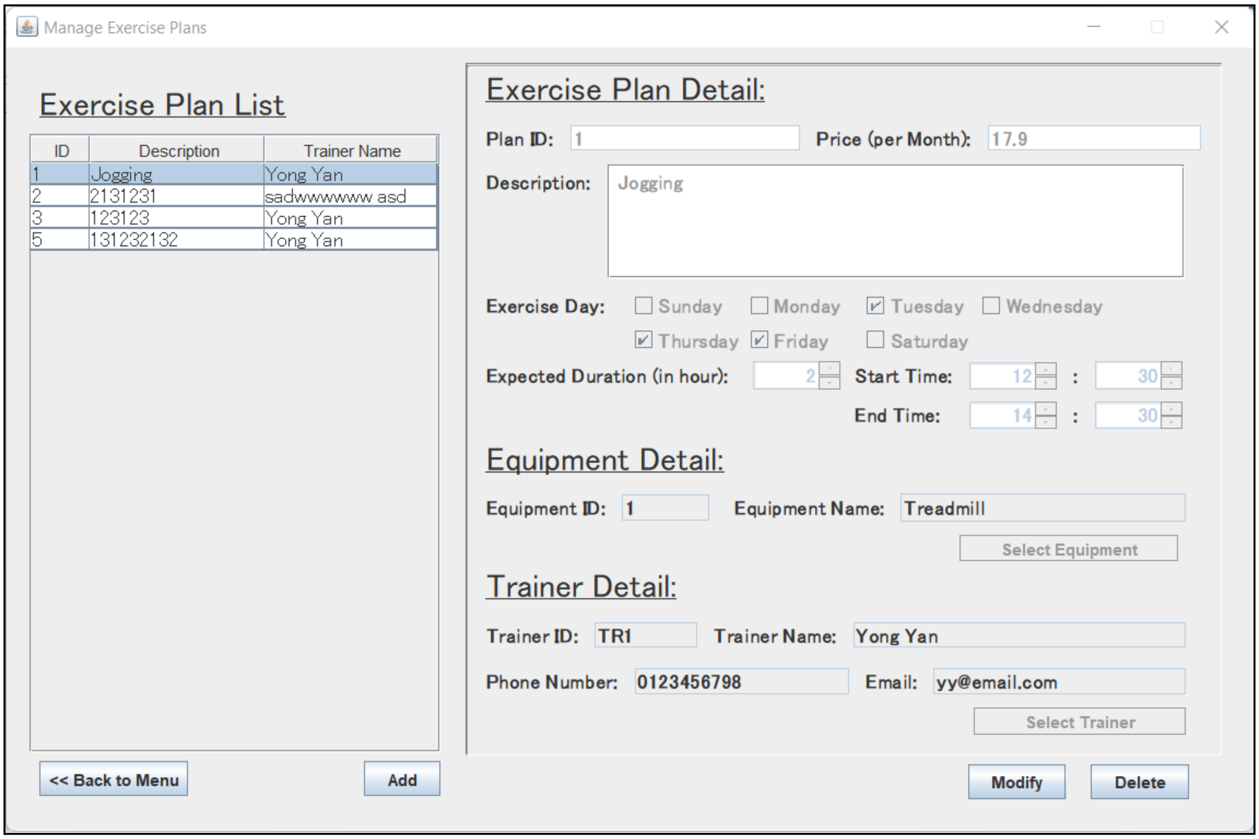
e: Drumbell

Email:

Trainer List

ID	Name	Phone No.
TR1	Yong Yan	0123456798
TR2	sadwwwwww asd	123123
TR3	Aisyah binti Musa	0173829182
TR4	Adam Hafiz	0121329182

Figure 43: Select Trainer Window when Staff or Admin Clicks "Select Trainer" Button



Manage Exercise Plans

Exercise Plan List

ID	Description	Trainer Name
1	Jogging	Yong Yan
2	2131231	sadwwwwww asd
3	123123	Yong Yan
5	131232132	Yong Yan

Exercise Plan Detail:

Plan ID: 1

Price (per Month): 17.9

Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

Expected Duration (in hour): 2

Start Time: 12 : 30

End Time: 14 : 30

Equipment Detail:

Equipment ID: 1

Equipment Name: Treadmill

Trainer Detail:

Trainer ID: TR1

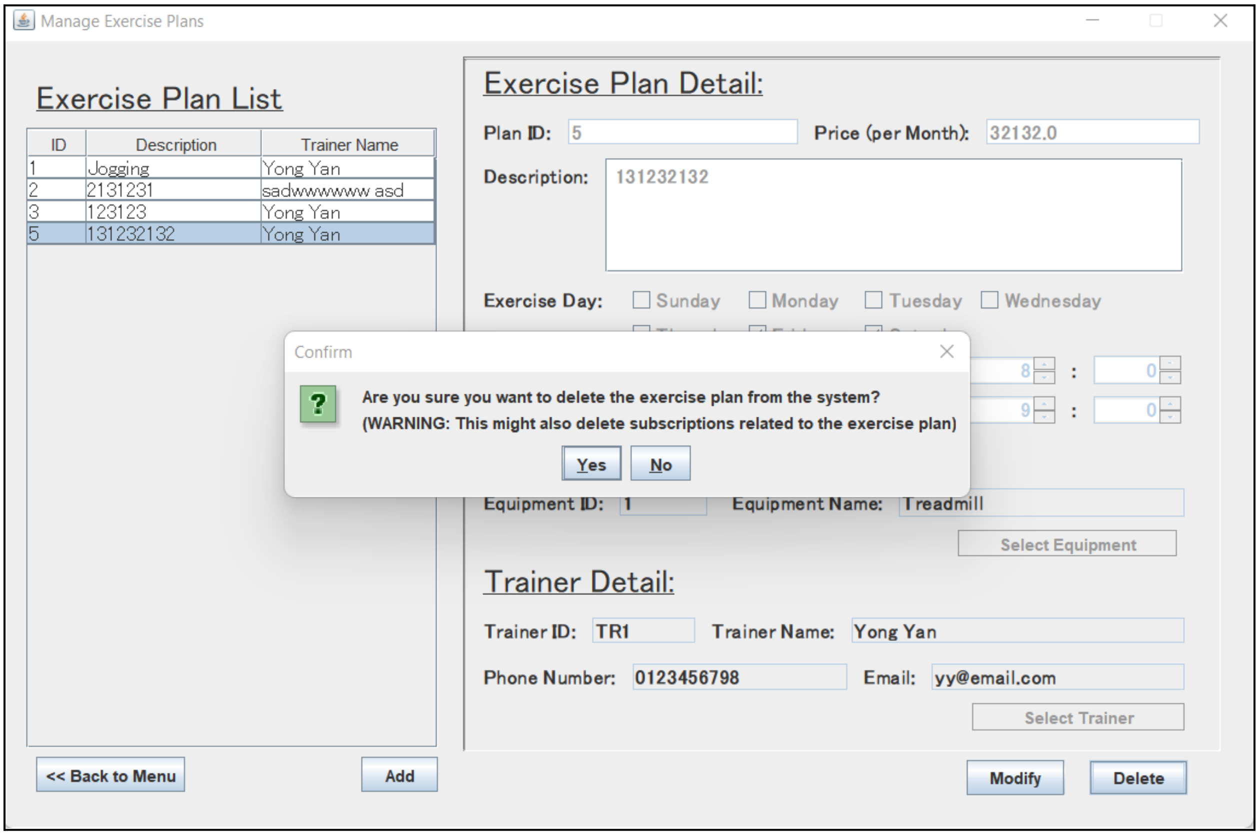
Trainer Name: Yong Yan

Phone Number: 0123456798

Email: yy@email.com

Figure 44: Manage Exercise Plan Page when Staff or Admin Select a Row in the Exercise Plan List Table

After a user selects a row of data in the table list, the information about the data row will be displayed on the right side of the page, the user can also modify the existing data in this page by clicking on “Modify” button. Same as the manage customer page, the “Delete” button will delete the selected exercise plan data in the system and show a confirm message to ensure that the user really wants to delete the data.



Manage Exercise Plans

Exercise Plan List

ID	Description	Trainer Name
1	Jogging	Yong Yan
2	2131231	sadwwwwww asd
3	123123	Yong Yan
5	131232132	Yong Yan

Exercise Plan Detail:

Plan ID: 5 Price (per Month): 32132.0

Description: 131232132

Exercise Day: □ Sunday □ Monday □ Tuesday □ Wednesday

8 : 0

9 : 0

Equipment ID: 1 Equipment Name: Treadmill

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

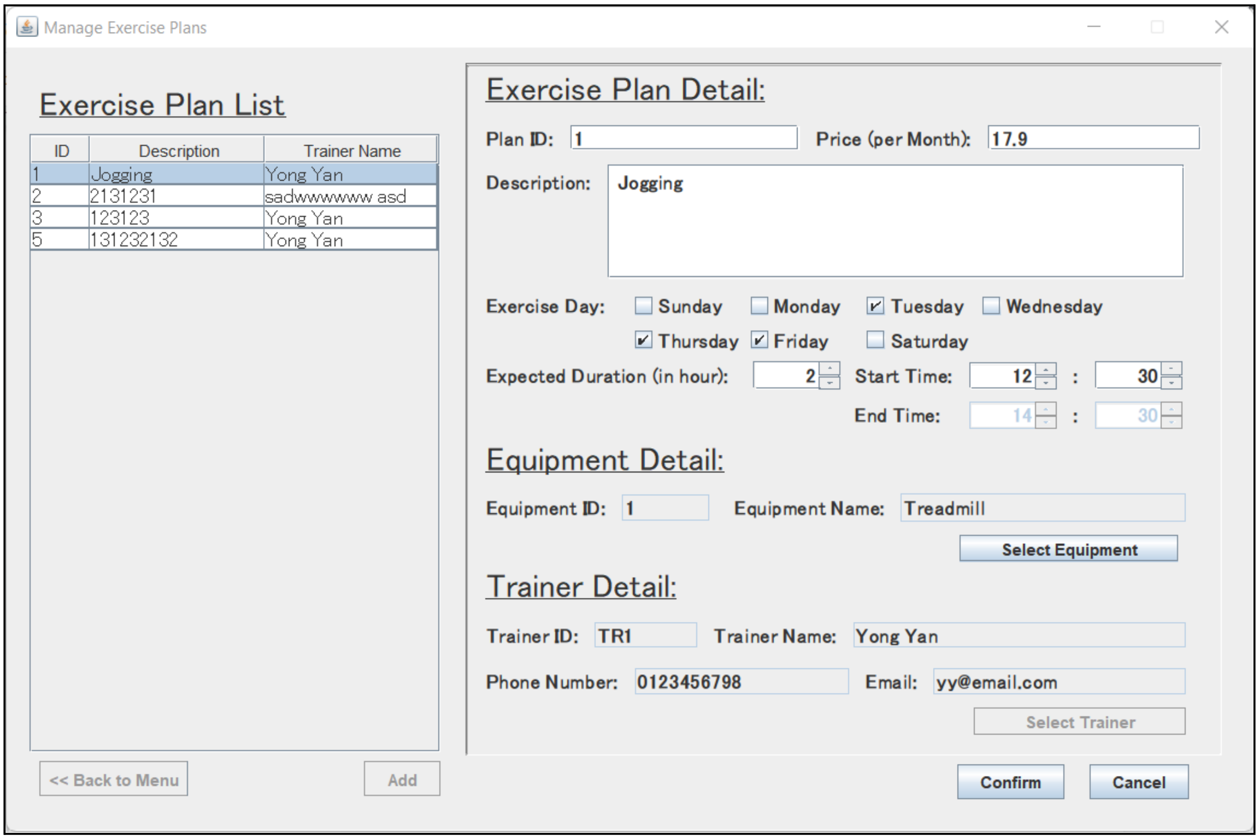
Phone Number: 0123456798 Email: yy@email.com

Confirm

Are you sure you want to delete the exercise plan from the system?
(WARNING: This might also delete subscriptions related to the exercise plan)

Figure 45: Confirm Message when User Clicks "Delete" Button

The "Modify" button will allow the user to change the data by enabling related input fields. At the same time, "Back to Menu" and "Add" buttons will be disabled.



Exercise Plan List

ID	Description	Trainer Name
1	Jogging	Yong Yan
2	2131231	sadwwwwww asd
3	123123	Yong Yan
5	131232132	Yong Yan

Exercise Plan Detail:

Plan ID: 1
Price (per Month): 17.9
Description: Jogging
Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday
Expected Duration (in hour): 2
Start Time: 12 : 30
End Time: 14 : 30

Equipment Detail:

Equipment ID: 1
Equipment Name: Treadmill

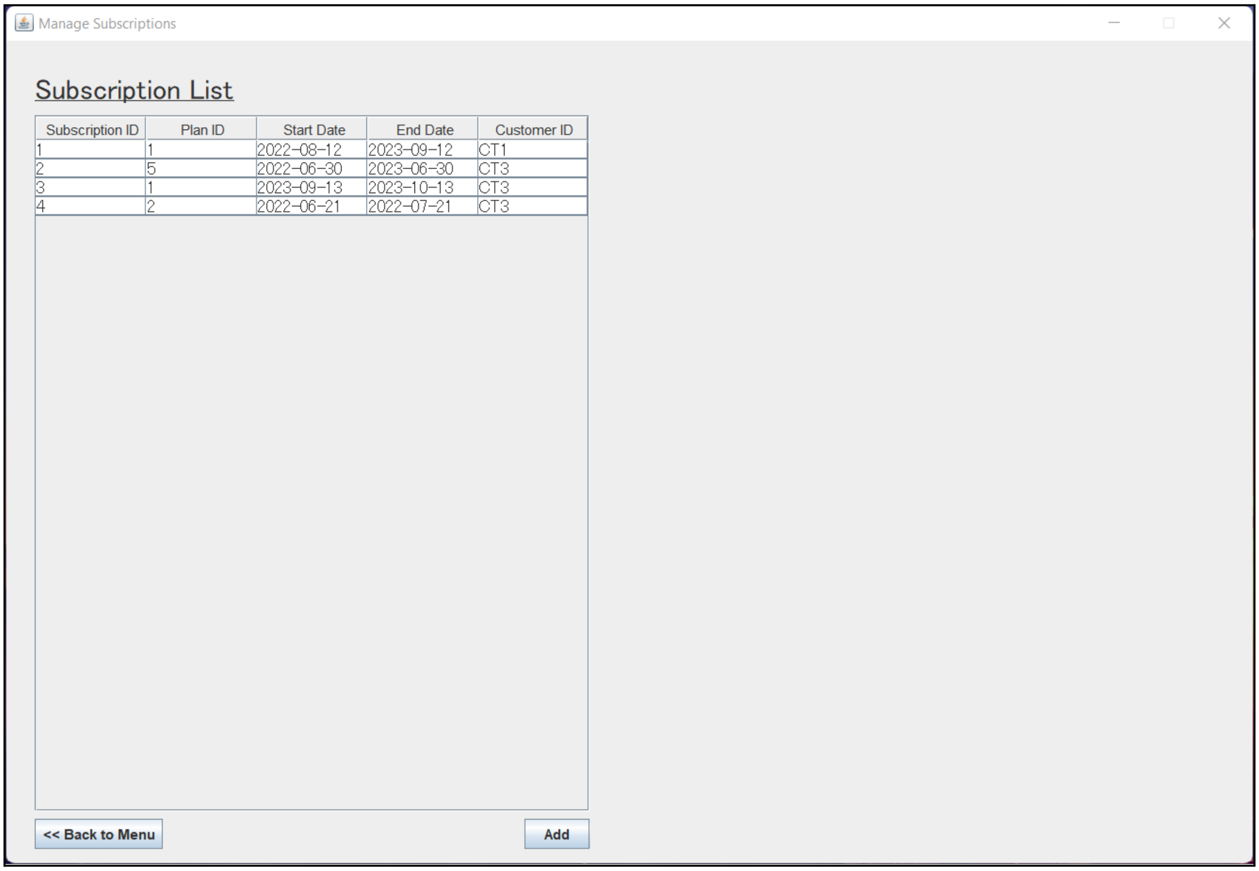
Trainer Detail:

Trainer ID: TR1
Trainer Name: Yong Yan
Phone Number: 0123456798
Email: yy@email.com

Figure 46: Manage Exercise Plan Page after User Clicks "Modify" Button

In this page, users can re-enter the new information for the selected exercise plan and after that click the "Confirm" button to update the information in the system. The validation of user input is similar to when adding new exercise plan data to the system. The "Cancel" button is also similar to the add exercise plan data part. The "Selected Trainer" button is disabled as the trainer of the exercise plan should not be changed after the exercise plan is added.

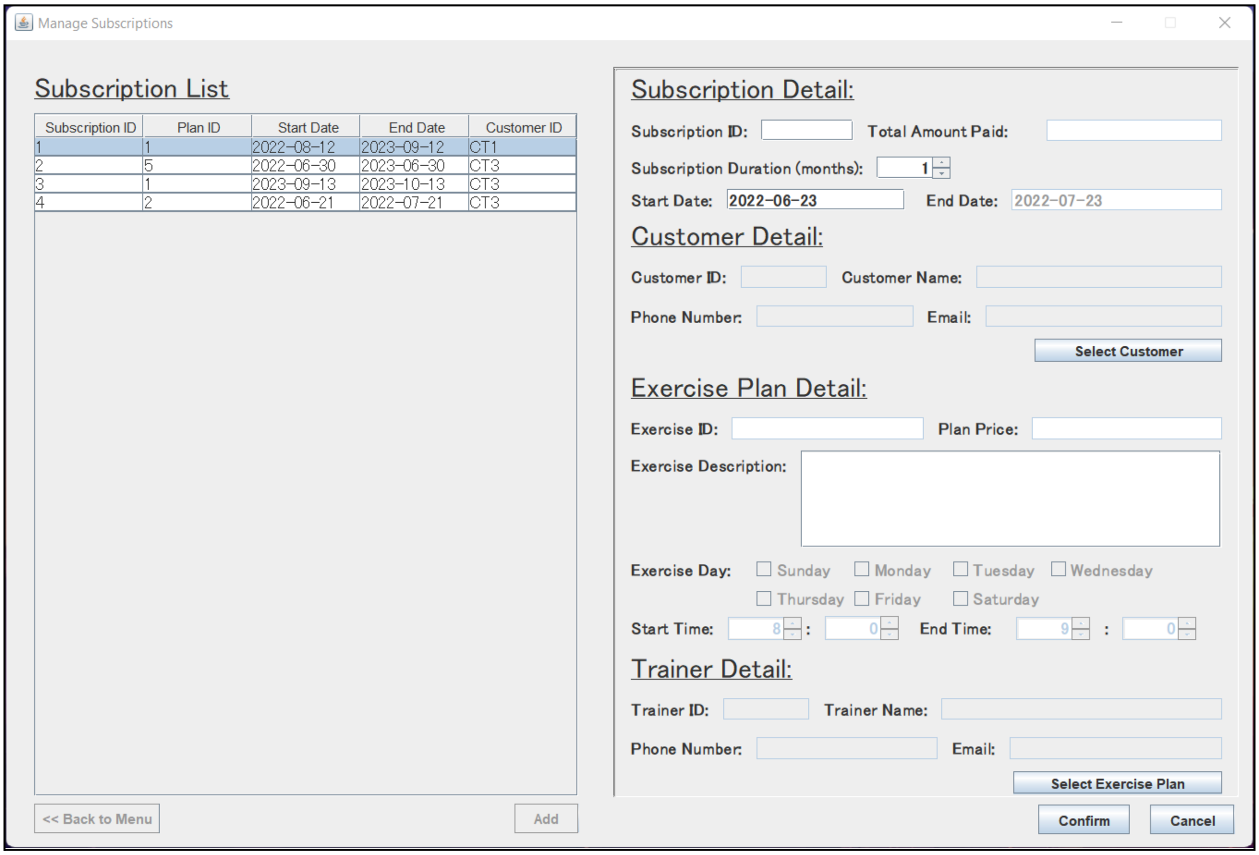
6.8 Manage Subscriptions Page (Staff / Admin)



Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3
4	2	2022-06-21	2022-07-21	CT3

Figure 47: Manage Subscription Page when Staff or Admin Click the "Manage Subscriptions" Button

The page will display a subscription list with subscription 's ID, exercise plan ID, subscription start date and end date and the ID of the customer subscribed to the plan that currently exists in a table form in the left panel of the page. Similar to the manage customer, the "Back to Menu" button and "Add" button also existed in the page and perform the same functions as in the manage customer page.



Subscription List

Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3
4	2	2022-06-21	2022-07-21	CT3

Subscription Detail:

Subscription ID: Total Amount Paid:

Subscription Duration (months): 1

Start Date: 2022-06-23 End Date: 2022-07-23

Customer Detail:

Customer ID: Customer Name:

Phone Number: Email:

Exercise Plan Detail:

Exercise ID: Plan Price:

Exercise Description:

Exercise Day: □ Sunday □ Monday □ Tuesday □ Wednesday □ Thursday □ Friday □ Saturday

Start Time: 8 : 0 End Time: 9 : 0

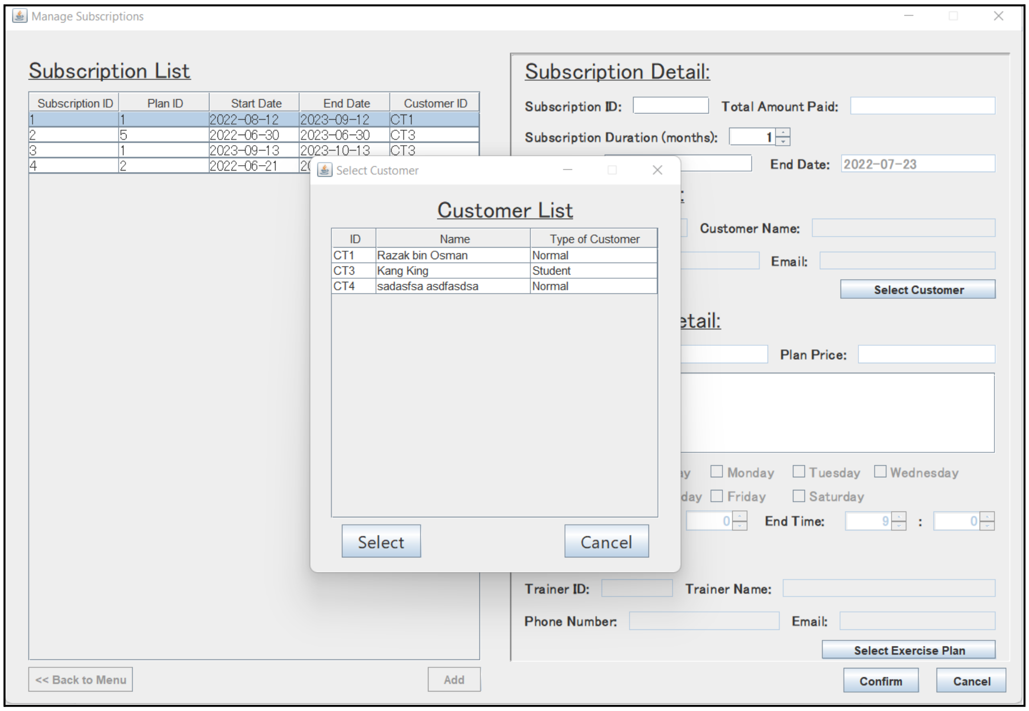
Trainer Detail:

Trainer ID: Trainer Name:

Phone Number: Email:

Figure 48: Manage Subscription Page when Staff or Admin Clicks "Add" Button

Same as the manage customer page, a form will be displayed for the user to enter the related information. The user can either click the "Cancel" button to enable the "Back to Menu" and "Add" buttons and close the form panel or click the "Confirm" button and add the new subscription data to the system after completing all the details. The "Confirm" button also has the data checking feature which validates the user input and will prompt error messages if the inputs are invalid. Besides that, the form itself also has another two unique buttons which are the "Select Customer" button and "Select Exercise Plan" button. "Select Customer" button enables the user to select the customer recorded in the system to be the subscriber whereas the "Select Exercise Plan" button allows the user to select an exercise plan from the system as the exercise plan to be subscribed based on the availability on the period selected.



Subscription List

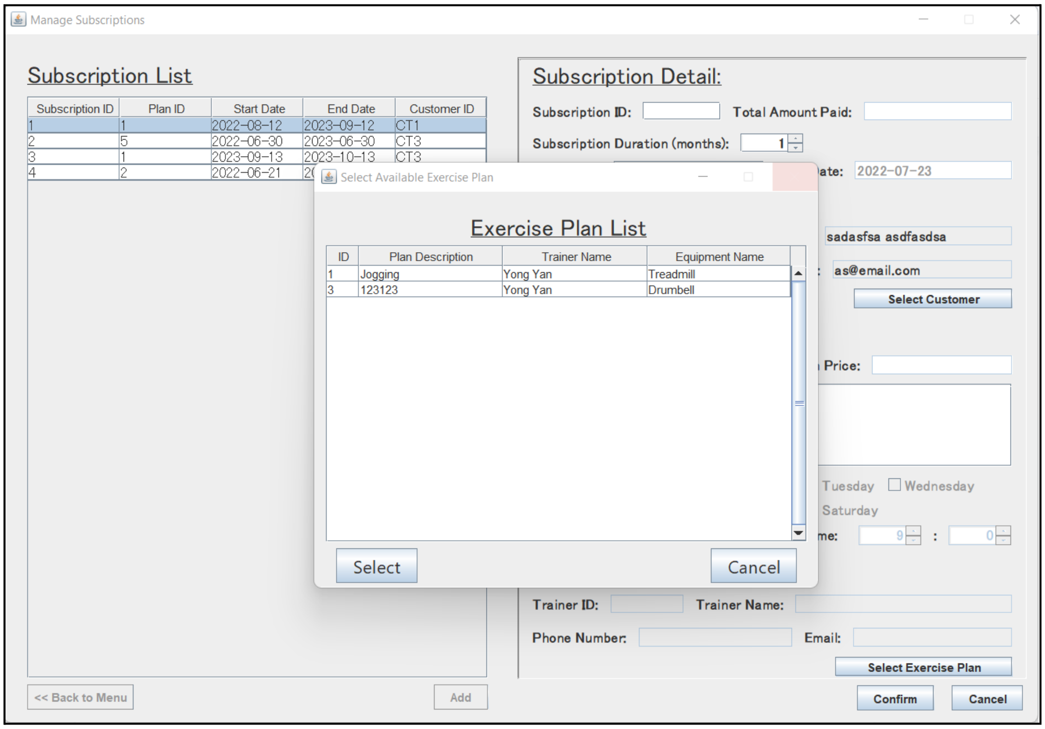
Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3
4	2	2022-06-21	20	

Subscription ID:
Total Amount Paid:
Subscription Duration (months): 1
End Date: 2022-07-23
Customer Name:
Email:
Plan Price:
□ Monday □ Tuesday □ Wednesday
□ Friday □ Saturday
0 End Time: 9 : 0
Trainer ID:
Trainer Name:
Phone Number:
Email:

Customer List

ID	Name	Type of Customer
CT1	Razak bin Osman	Normal
CT3	Kang King	Student
CT4	sadasfsa asdfasdsa	Normal

Figure 49: Select Customer Window when Staff or Admin Clicks "Select Customer" Button



Subscription List

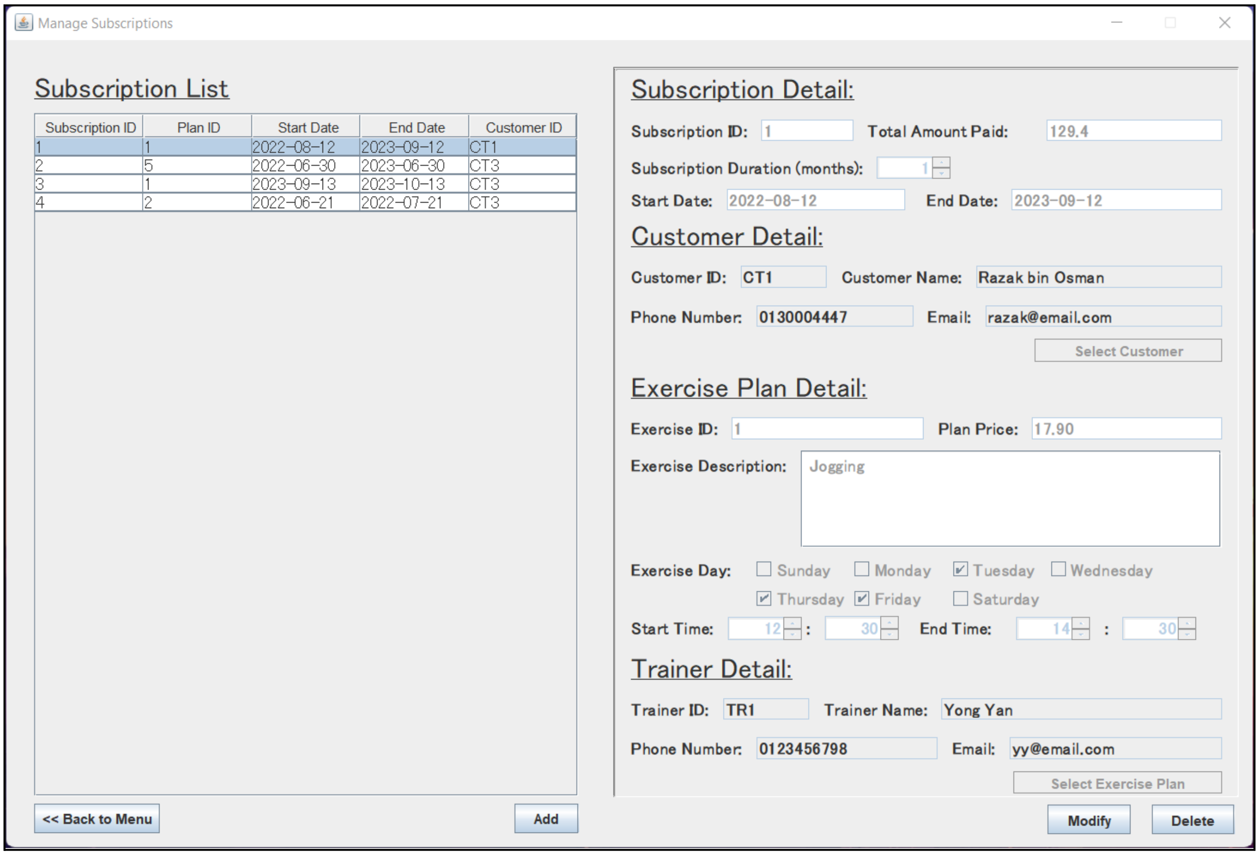
Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3
4	2	2022-06-21	20	

Subscription ID:
Total Amount Paid:
Subscription Duration (months): 1
ate: 2022-07-23
sadasfsa asdfasdsa
: as@email.com
Price:
Tuesday □ Wednesday
Saturday
me: 9 : 0
Trainer ID:
Trainer Name:
Phone Number:
Email:

Exercise Plan List

ID	Plan Description	Trainer Name	Equipment Name
1	Jogging	Yong Yan	Treadmill
3	123123	Yong Yan	Drumbell

Figure 50: Select Exercise Plan Window when Staff or Admin Clicks "Select Exercise Plan" Button



Subscription List

Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3
4	2	2022-06-21	2022-07-21	CT3

Subscription Detail:

Subscription ID: 1 Total Amount Paid: 129.4

Subscription Duration (months): 1

Start Date: 2022-08-12 End Date: 2023-09-12

Customer Detail:

Customer ID: CT1 Customer Name: Razak bin Osman

Phone Number: 0130004447 Email: razak@email.com

Exercise Plan Detail:

Exercise ID: 1 Plan Price: 17.90

Exercise Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

Start Time: 12 : 30 End Time: 14 : 30

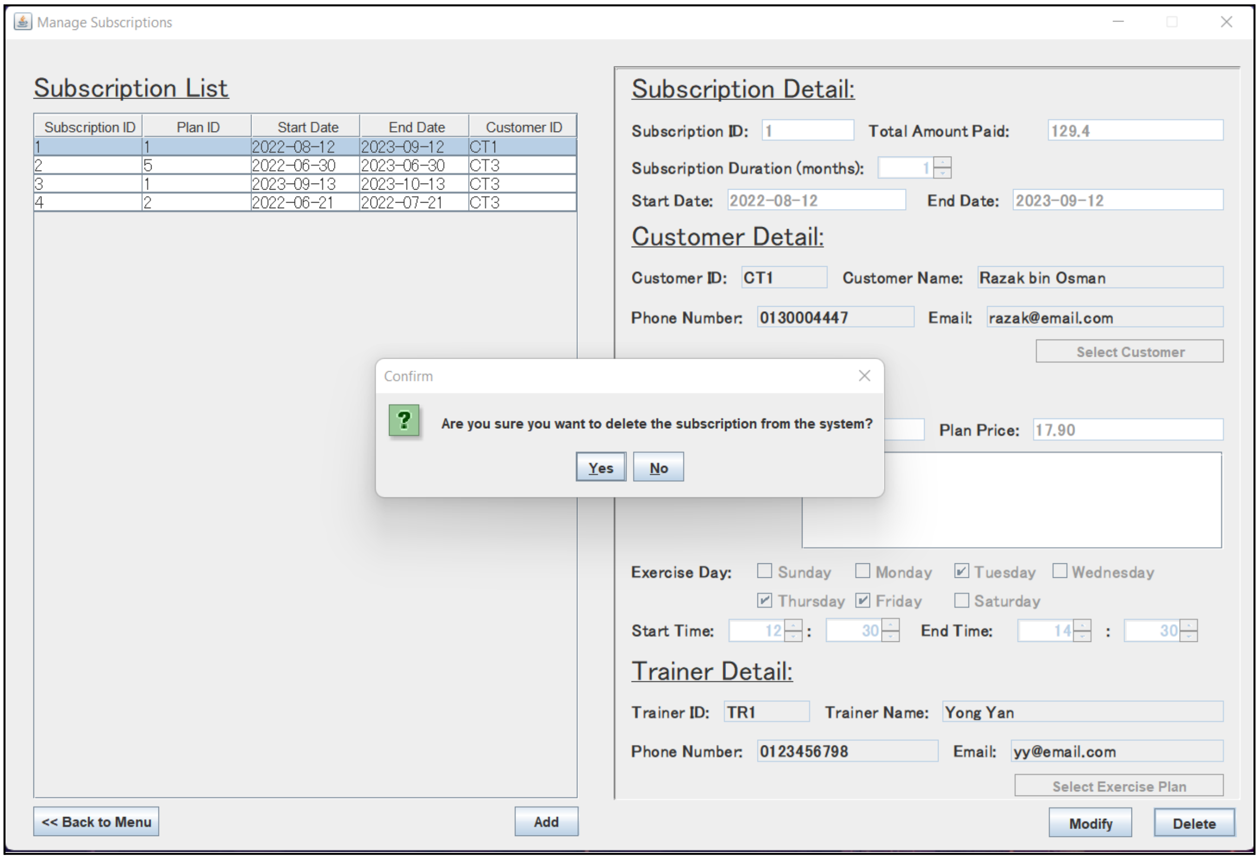
Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

Figure 51: Manage Subscription Page when Staff or Admin Select a Row in the Subscription List Table

After a user selects a row of data in the table list, the information about the data row will be displayed on the right side of the page, the user can also modify the existing data in this page by clicking on "Modify" button. Same as the manage customer page, the "Delete" button will delete the selected subscription data in the system and show a confirm message to ensure that the user really wants to delete the data.



Subscription List

Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3
4	2	2022-06-21	2022-07-21	CT3

Subscription Detail:

Subscription ID: 1 Total Amount Paid: 129.4

Subscription Duration (months): 1

Start Date: 2022-08-12 End Date: 2023-09-12

Customer Detail:

Customer ID: CT1 Customer Name: Razak bin Osman

Phone Number: 0130004447 Email: razak@email.com

Plan Price: 17.90

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

Start Time: 12 : 30 End Time: 14 : 30

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

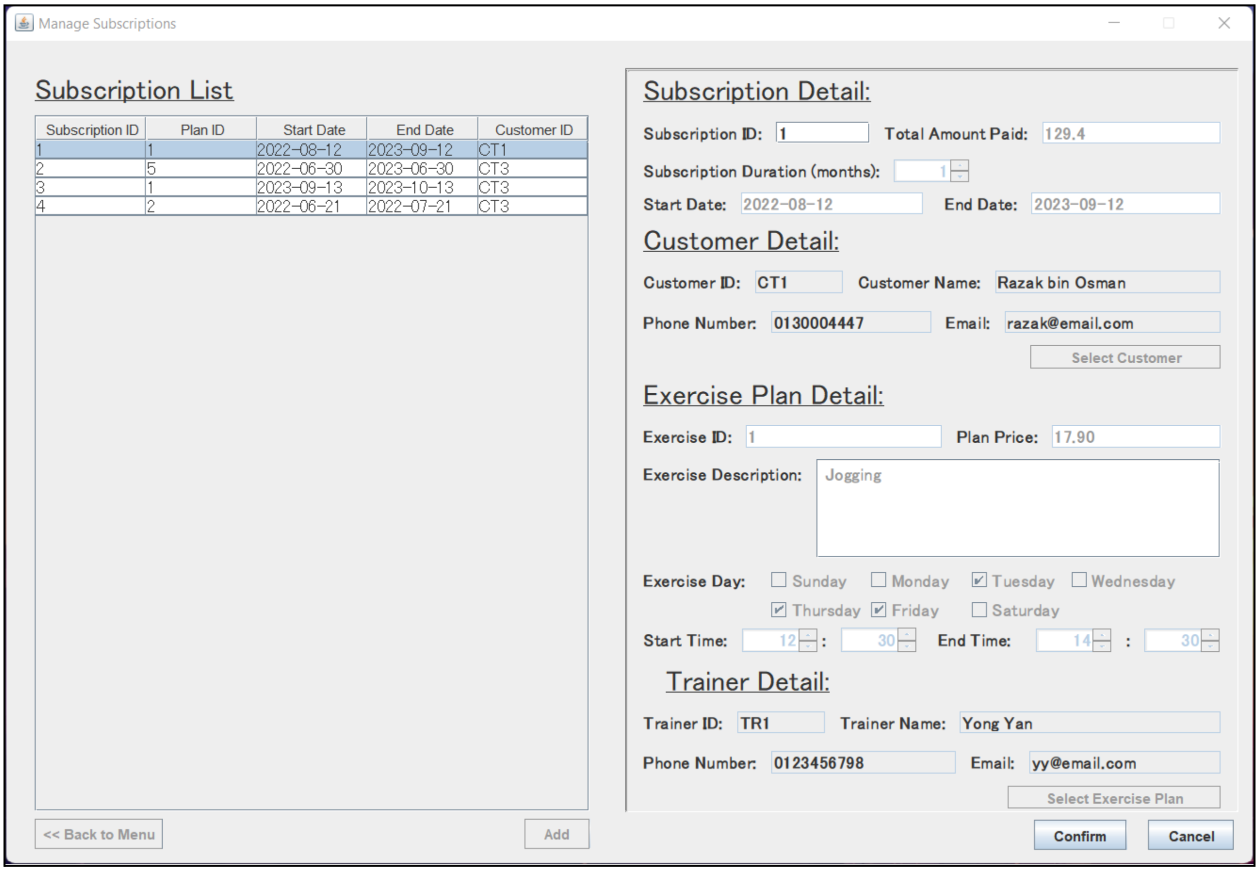
Phone Number: 0123456798 Email: yy@email.com

Confirm

Are you sure you want to delete the subscription from the system?

Figure 52: Confirm Message when User Clicks "Delete" Button

The "Modify" button will allow the user to change the data by enabling related input fields. At the same time, "Back to Menu" and "Add" buttons will be disabled.



Subscription List

Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3
4	2	2022-06-21	2022-07-21	CT3

Subscription Detail:

Subscription ID: 1 Total Amount Paid: 129.4

Subscription Duration (months): 1

Start Date: 2022-08-12 End Date: 2023-09-12

Customer Detail:

Customer ID: CT1 Customer Name: Razak bin Osman

Phone Number: 0130004447 Email: razak@email.com

Exercise Plan Detail:

Exercise ID: 1 Plan Price: 17.90

Exercise Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

Start Time: 12 : 30 End Time: 14 : 30

Trainer Detail:

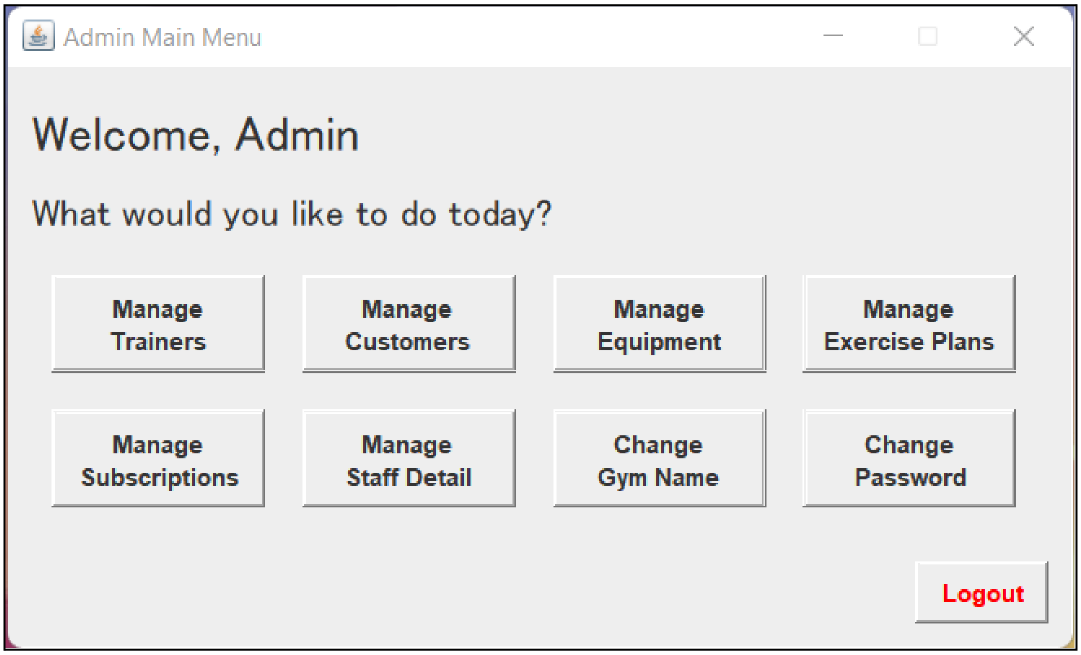
Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

Figure 53: Manage Subscription Page after User Clicks "Modify" Button

In this page, users can re-enter the new information for the selected subscription (only subscription ID as other fields should not be changed) and after that click the "Confirm" button to update the information in the system. The validation of user input is similar to when adding new exercise plan data to the system. The "Cancel" button is also similar to the add subscription data part.

6.9 Admin Main Menu



Admin Main Menu

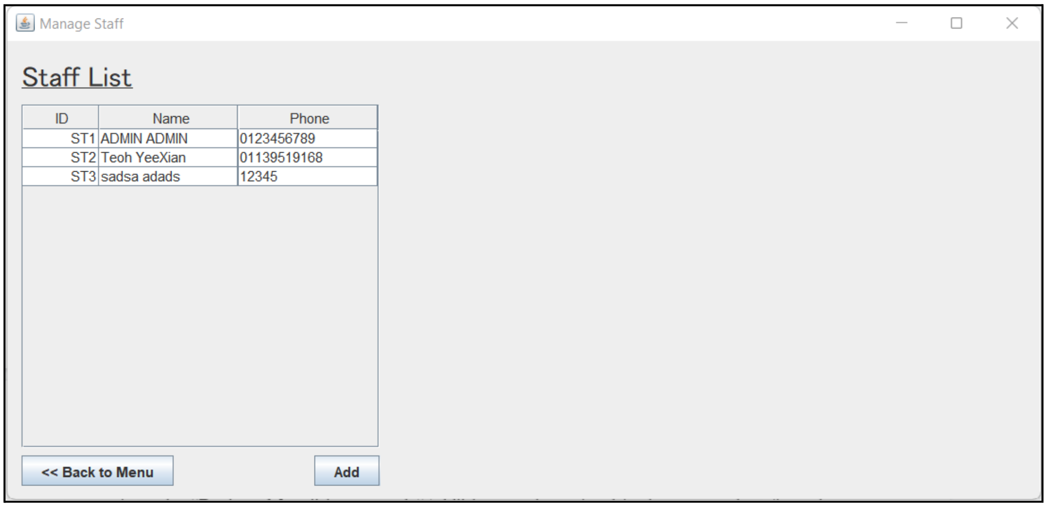
Welcome, Admin

What would you like to do today?

Figure 54: GUI of Admin Main Menu after Successful Login

The GUI of the admin main menu of the Gym Management System has a welcome text. This main menu provides eight buttons for admin to select which data to manage, which are trainers, customers, equipment, exercise plans, subscriptions, staff, gym's name, password and another button which is used to logout from the page and close the application. Clicking on the eight buttons except the logout button will allow admin to directly open the page where all the related information is stored. When the logout button is clicked, an option message will be displayed to let the admin confirm their logout option same as the staff main menu. The GUIs for managing trainers, customers, equipment, exercise plans and subscriptions for admin are the same with staff.

6.10 Manage Staff Page

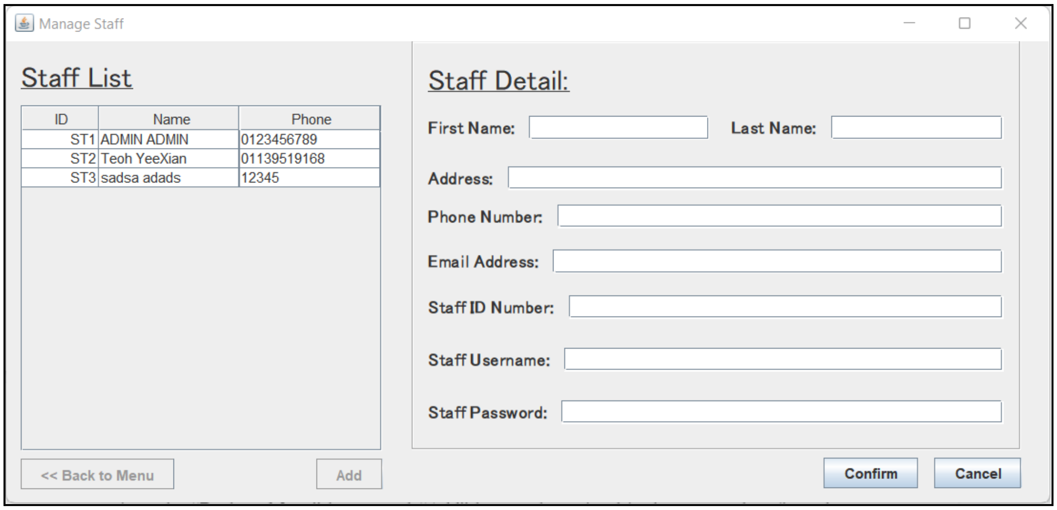


Staff List

ID	Name	Phone
ST1	ADMIN ADMIN	0123456789
ST2	Teoh YeeXian	01139519168
ST3	sadsa adads	12345

Figure 55: Manage Staff Page when Admin Clicks the "Manage Staff Detail" Button

The page will display a staff list with staff's ID, name and phone that currently exists in a table form in the left panel of the page. Similar to the manage customer, the "Back to Menu" button and "Add" button also existed in the page and perform the same functions as in the manage customer page.



Staff List

ID	Name	Phone
ST1	ADMIN ADMIN	0123456789
ST2	Teoh YeeXian	01139519168
ST3	sadsa adads	12345

Staff Detail:

First Name: Last Name:

Address:

Phone Number:

Email Address:

Staff ID Number:

Staff Username:

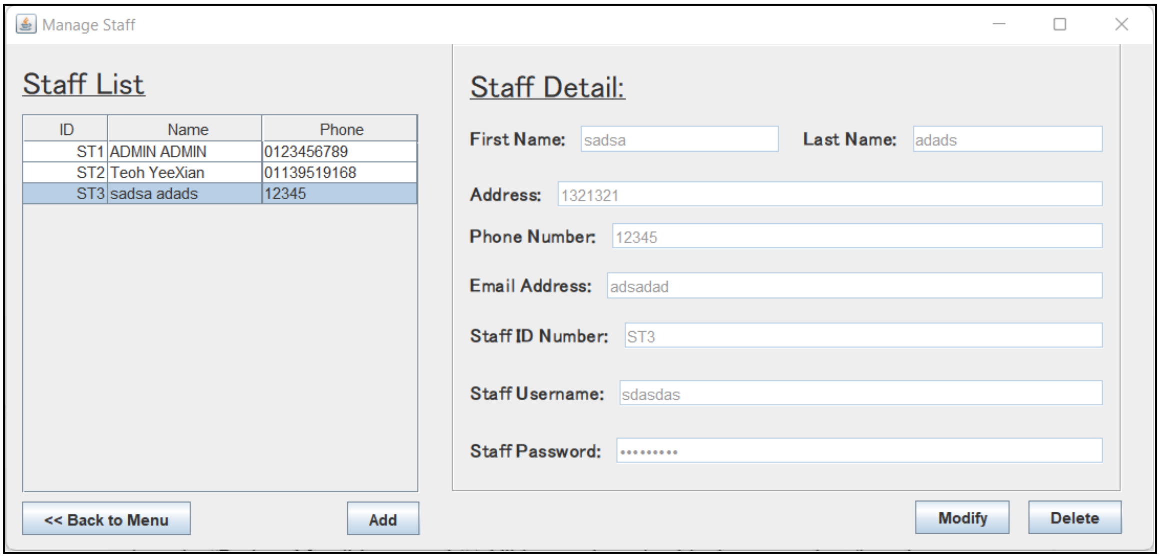
Staff Password:

Figure 56: Manage Staff Page when Admin Clicks "Add" Button

Same as the manage customer page, a form will be displayed for the user to enter the related information. The user can either click the "Cancel" button to dispose the form and enable the "Back to Menu" and "Add" buttons as well as the selection of staffs in the list or click the "Confirm" button and add the new staff data to the system after completing all the details. The

“Confirm” button also has the data checking feature which validates the user input and will prompt an error message if the inputs are invalid.

Users can also modify the existing data in this page. When a user selects a row of data in the table list, the information about the data row will be displayed on the right side of the page.



Staff List

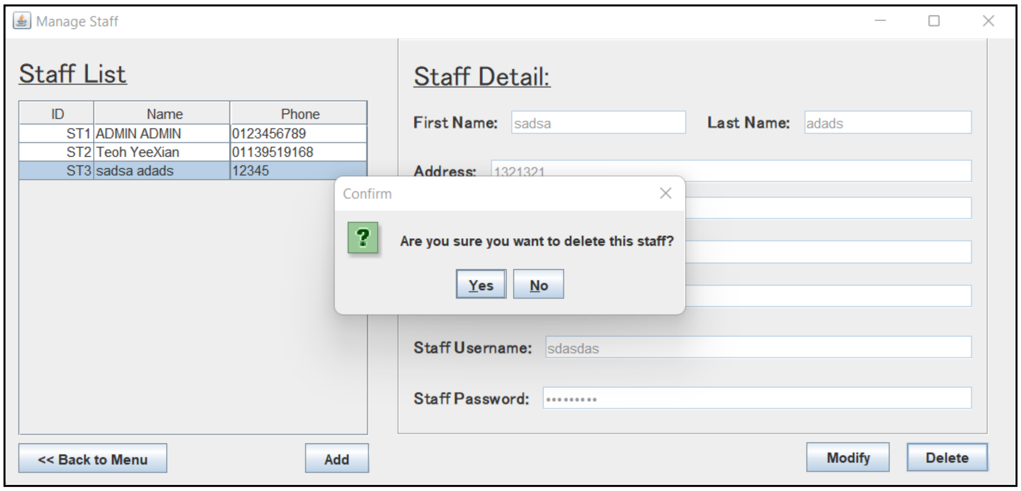
ID	Name	Phone
ST1	ADMIN ADMIN	0123456789
ST2	Teoh YeeXian	01139519168
ST3	sadsa adads	12345

Staff Detail:

First Name: sadsa
Last Name: adads
Address: 1321321
Phone Number: 12345
Email Address: adsadad
Staff ID Number: ST3
Staff Username: sdasdas
Staff Password: •••••••••

Figure 57: Manage Staff Page when Admin Select a Row in the Staff List Table

Same as the manage customer page, the “Delete” button will delete the selected staff data in the system and show a confirm message to ensure that the user really want to delete the data.



Staff List

ID	Name	Phone
ST1	ADMIN ADMIN	0123456789
ST2	Teoh YeeXian	01139519168
ST3	sadsa adads	12345

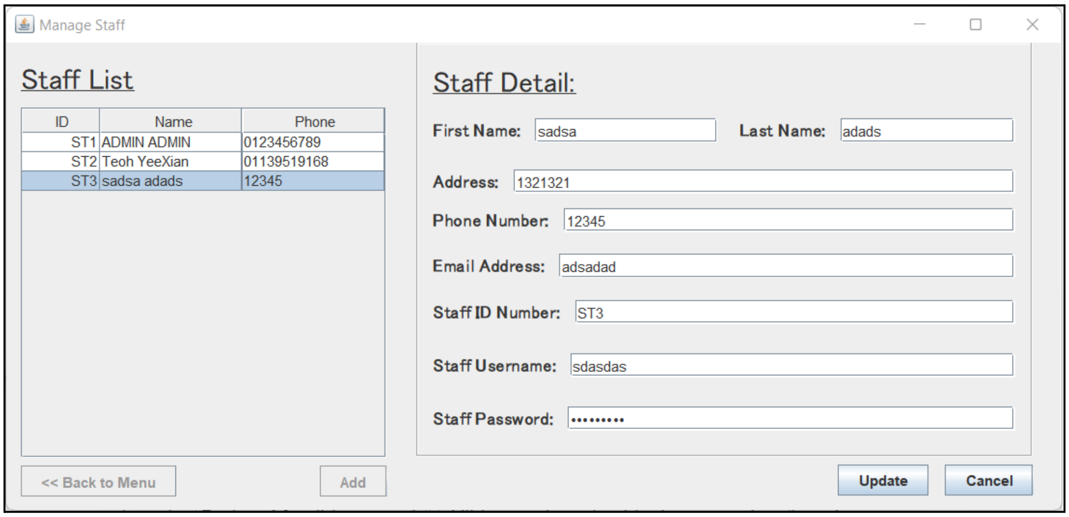
Staff Detail:

First Name: sadsa
Last Name: adads
Address: 1321321
Staff Username: sdasdas
Staff Password: •••••••••

Are you sure you want to delete this staff?

Figure 58: Confirm Message when User Clicks “Delete” Button

The “Modify” button will allow the user to change the data by enabling related input fields. At the same time, “Back to Menu” and “Add” buttons will be disabled.



ID	Name	Phone
ST1	ADMIN ADMIN	0123456789
ST2	Teoh YeeXian	01139519168
ST3	sadsa adads	12345

First Name: sadsa Last Name: adads

Address: 1321321

Phone Number: 12345

Email Address: adsadad

Staff ID Number: ST3

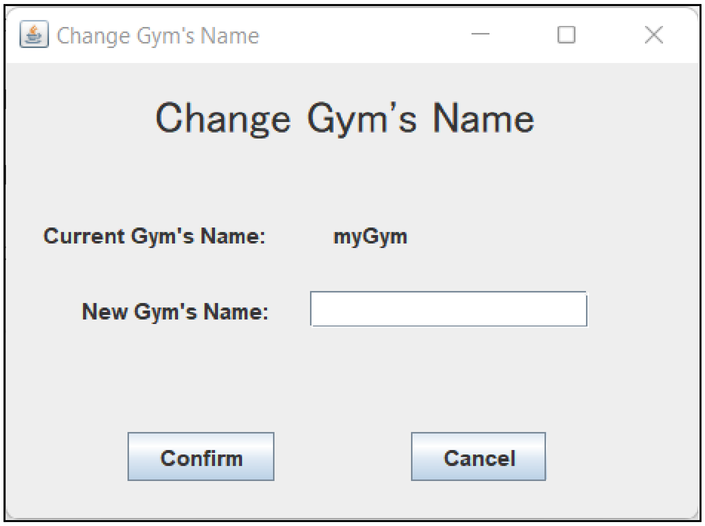
Staff Username: sdasdas

Staff Password: •••••••••

Figure 59: Manage Staff Page after User Clicks "Modify" Button

In this page, users can re-enter the new information for the selected staff and after that click the "Update" button to update the information in the system. The validation of user input is similar to when adding new customer data to the system. The "Cancel" button is also similar to the add staff data part.

6.11 Change Gym Name Page



Current Gym's Name: myGym

New Gym's Name:

Figure 60: Change Gym Name Page after Admin Clicks the "Change Gym Name" Button

The page will display a window for the admin to change the gym's name. The window will display the current gym's name and prepare a field for the admin to enter the new gym's name. The two buttons in the page are "Confirm" button which will update the gym's name by using the input in the field prepared while the “Cancel” button will return the admin back to the admin main menu.

6.12 Change Admin Password Page

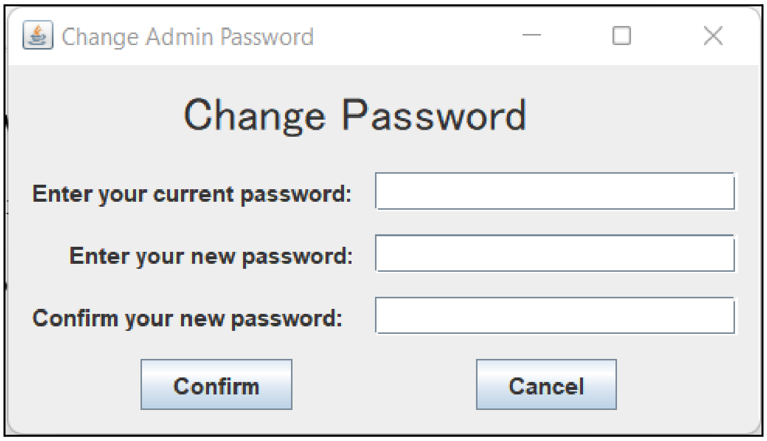
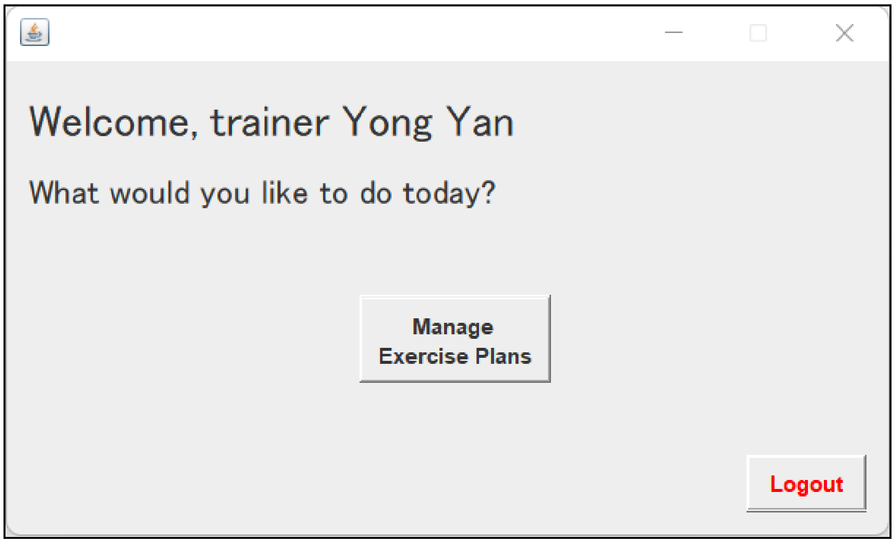


Figure 61: Change Gym Name Page after Admin Clicks the “Change Gym Name” Button

The page will display a window for the admin to change the admin password. There are three fields in the page which require the admin to input the current password to verify the current user is the admin and enter the new password twice to confirm the new password to be used. The two buttons in the page are the “Confirm” button which will update the admin password by using the input in the field prepared while the “Cancel” button will return the admin back to the admin main menu. The current password must be matched to the current admin password to allow the update action to take effect when clicking the “Confirm” button; otherwise an error message will be displayed.

6.13 Trainer Main Menu



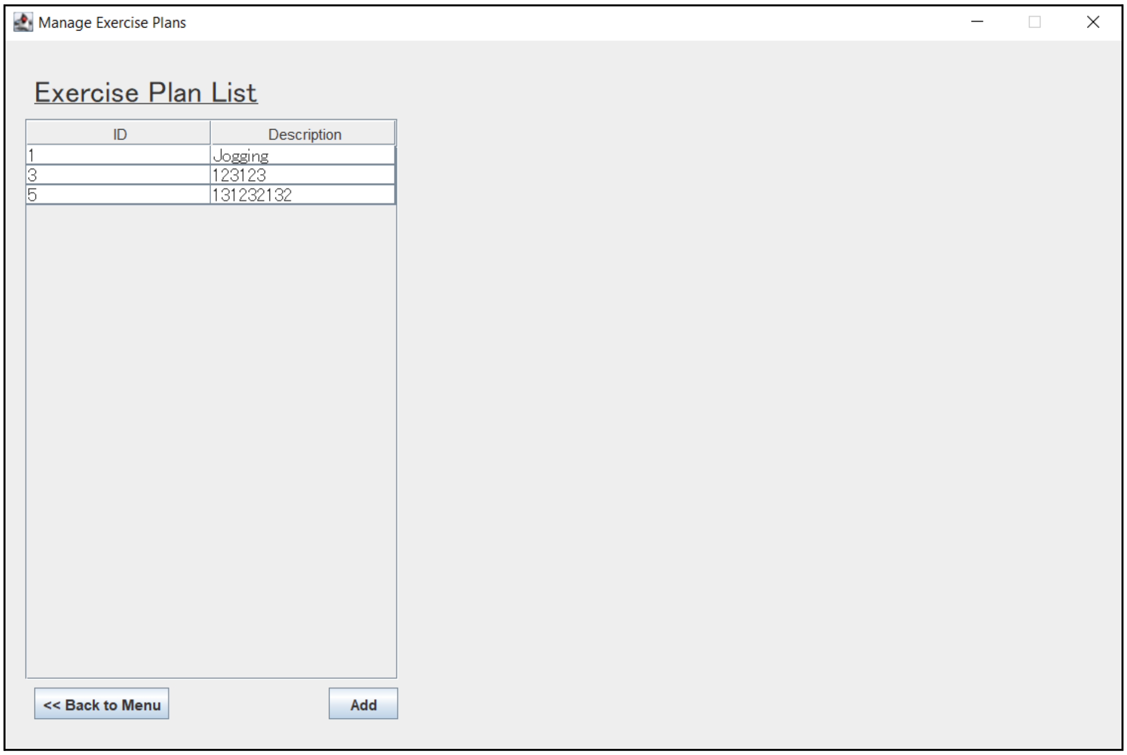
Welcome, trainer Yong Yan

What would you like to do today?

Figure 62: GUI of Trainer Main Menu after Successful Login

The GUI of the trainer main menu of the Gym Management System has a welcome text to welcome the login trainer. This main menu provides only one button which is to manage exercise plans and another button which is used to logout from the page and close the application. Clicking on the “Manage Exercise Plans” button will allow the trainer to open the page where all the related exercise plans information is stored. When the logout button is clicked, an option message will be displayed to let the trainer confirm their logout option same as the staff main menu

6.14 Manage Exercise Plan Page (Trainer)



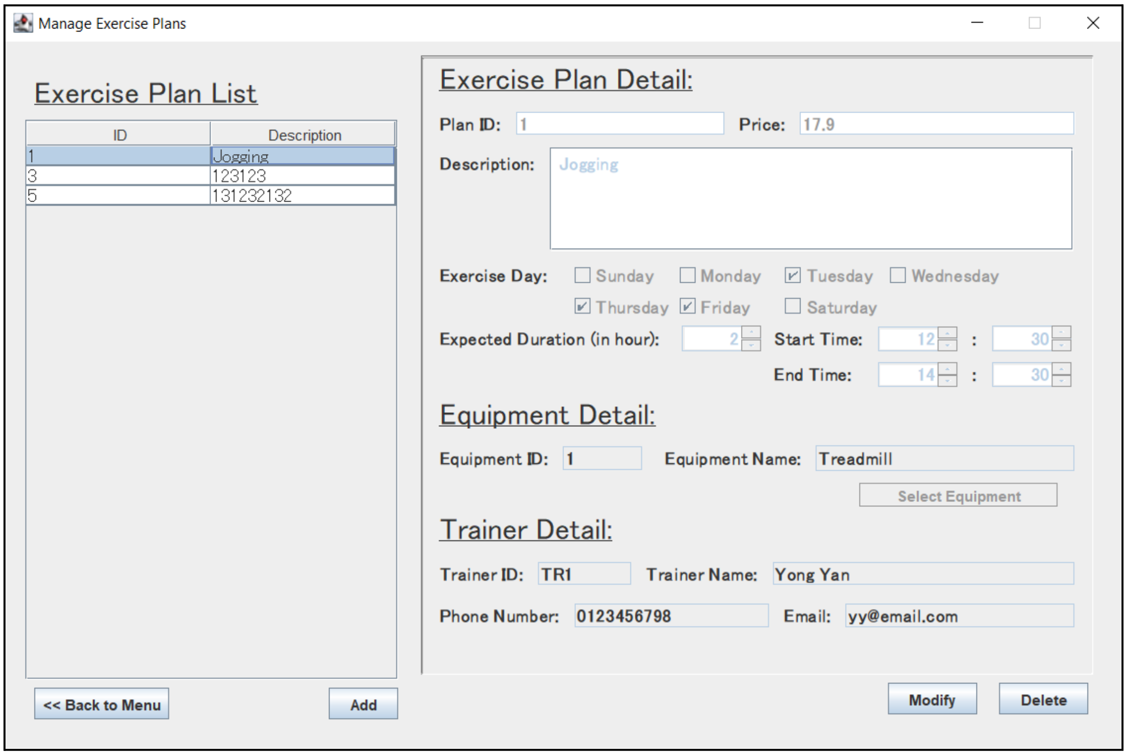
Manage Exercise Plans

Exercise Plan List

ID	Description
1	Jogging
3	123123
5	131232132

Figure 63: GUI of Manage Exercise Plan when Trainer Clicks the "Manage Exercise Plans" Button

When the trainer clicks on "Manage Exercise Plans", the page will display a list of exercise plans which belong to the trainer. On this page, there are two buttons which are "Back to Menu" and "Add". The "Back to Menu" button allows the user to return to the previous page while the "Add" button allows the user to add an exercise plan.



Exercise Plan List

ID	Description
1	Jogging
3	123123
5	131232132

Exercise Plan Detail:

Plan ID: 1 Price: 17.9

Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

Expected Duration (in hour): 2 Start Time: 12 : 30

End Time: 14 : 30

Equipment Detail:

Equipment ID: 1 Equipment Name: Treadmill

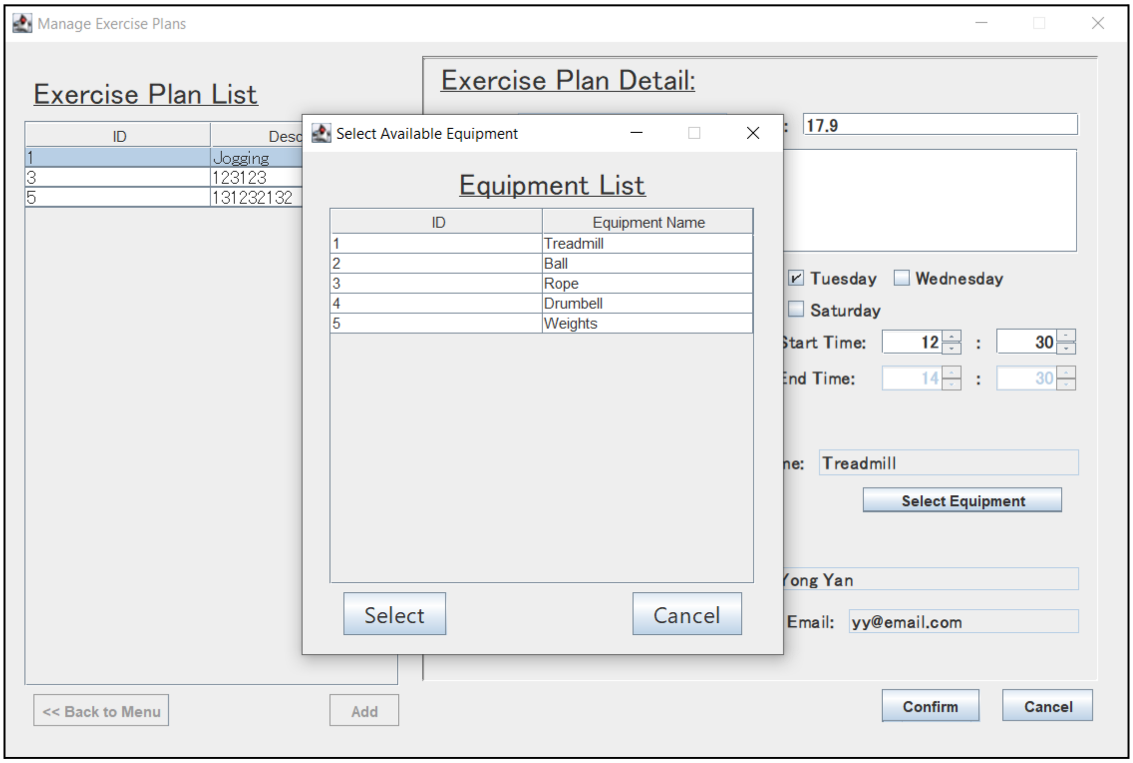
Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

Figure 64: GUI of Manage Exercise Plan Page when Trainer Clicks on particular plan or "Add" Button

When the trainer clicks on an exercise plan, the trainer can view the details related to the particular exercise plan. Furthermore, the trainer can click "Add" to add a new exercise plan that belongs to the trainer. The fields that can be entered are price, description, exercise day, expected duration and equipment.



Exercise Plan List

ID	Desc
1	Jogging
3	123123
5	131232132

Equipment List

ID	Equipment Name
1	Treadmill
2	Ball
3	Rope
4	Drumbell
5	Weights

Exercise Plan Detail:

: 17.9

☑ Tuesday □ Wednesday

□ Saturday

Start Time: 12 : 30

End Time: 14 : 30

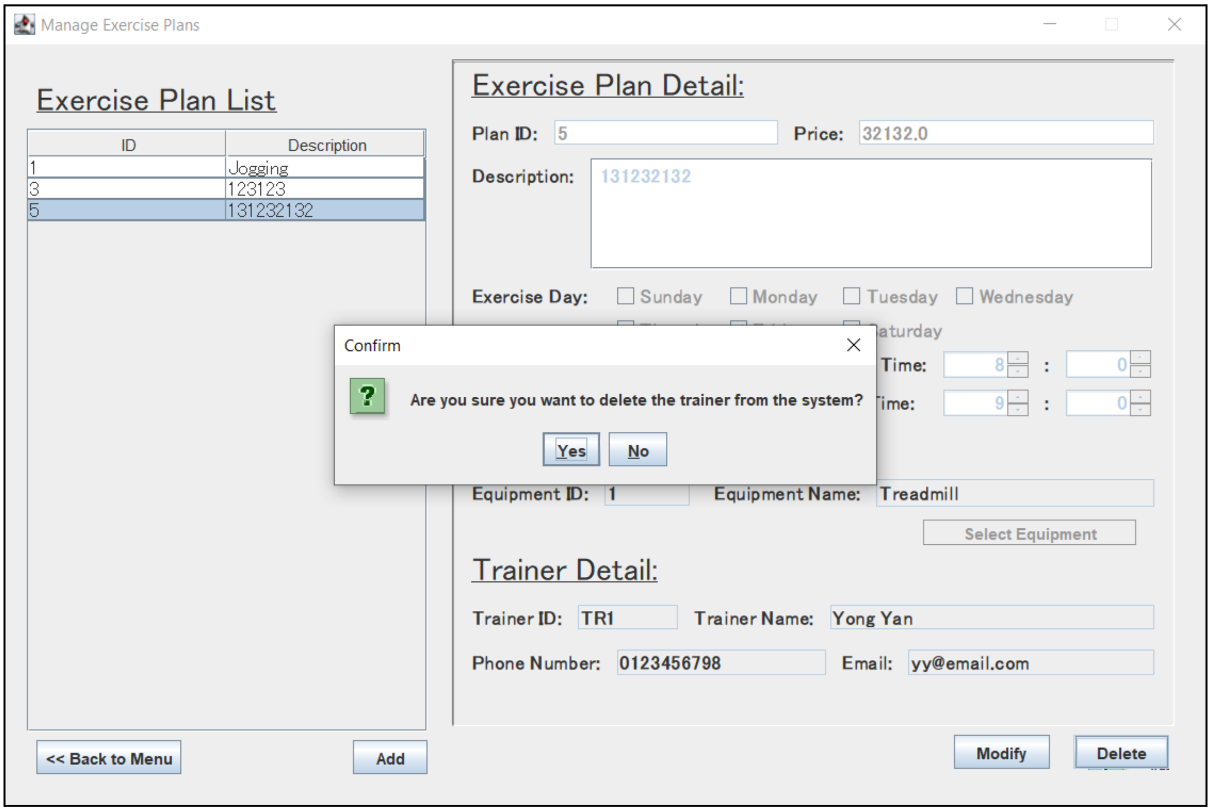
ne: Treadmill

Yong Yan

Email: yy@email.com

Figure 65: Select Equipment Window when Trainer Clicks "Select Equipment" Button

The trainer can click on "Select Equipment" to select the equipment needed for the exercise plan. This feature is available when adding a new exercise plan or modifying existing exercise plan. The visibility of equipment is subject to availability of the particular equipment on selected time and day.



Manage Exercise Plans

Exercise Plan List

ID	Description
1	Jogging
3	123123
5	131232132

Exercise Plan Detail:

Plan ID: 5 Price: 32132.0

Description: 131232132

Exercise Day: □ Sunday □ Monday □ Tuesday □ Wednesday

aturday

Time: 8 : 0

ime: 9 : 0

Equipment ID: 1 Equipment Name: Treadmill

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

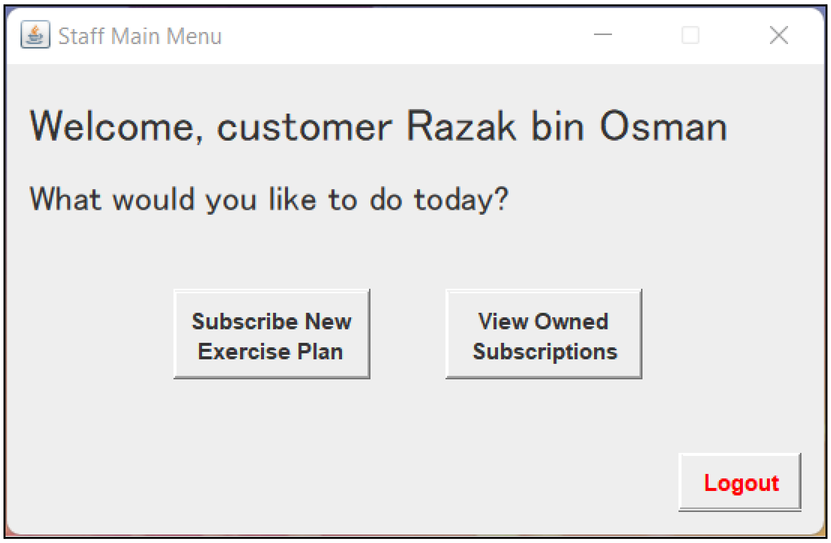
Confirm

Are you sure you want to delete the trainer from the system?

Figure 66: Confirmation Message when Trainer Clicks "Delete" Button

When the trainer clicks on a particular exercise plan, the trainer can choose to modify or delete that exercise plan. If the trainer clicks "Delete", a message will be displayed, asking the user to confirm the deletion of selected exercise plan. After clicking "Yes", the exercise plan will be deleted, and the list of exercise plans will be updated.

6.15 Customer Main Menu



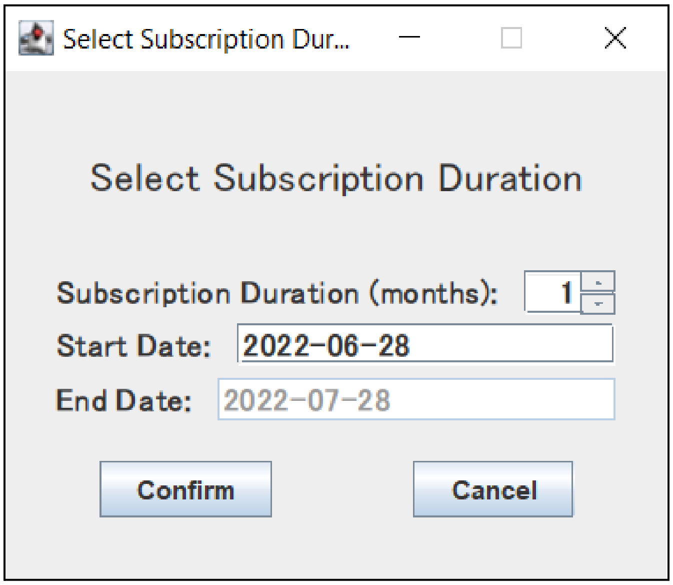
Welcome, customer Razak bin Osman

What would you like to do today?

Figure 67: GUI of Customer Main Menu after Successful Login

The GUI of the customer main menu of the Gym Management System has a welcome text to welcome the login customer. This main menu provides two buttons which are used to allow the customer to subscribe to a new exercise plan and view owned subscriptions and another button which is used to logout from the page and close the application. Clicking on the "Subscribe New Exercise Plan" button will allow the customer to open the page to select a new exercise plan to subscribe whereas the "View Owned Subscriptions" button will allow the customer to view previous owned subscriptions. When the logout button is clicked, an option message will be displayed to let the customer confirm their logout option same as the staff main menu.

6.16 Subscribe New Exercise Plan Page

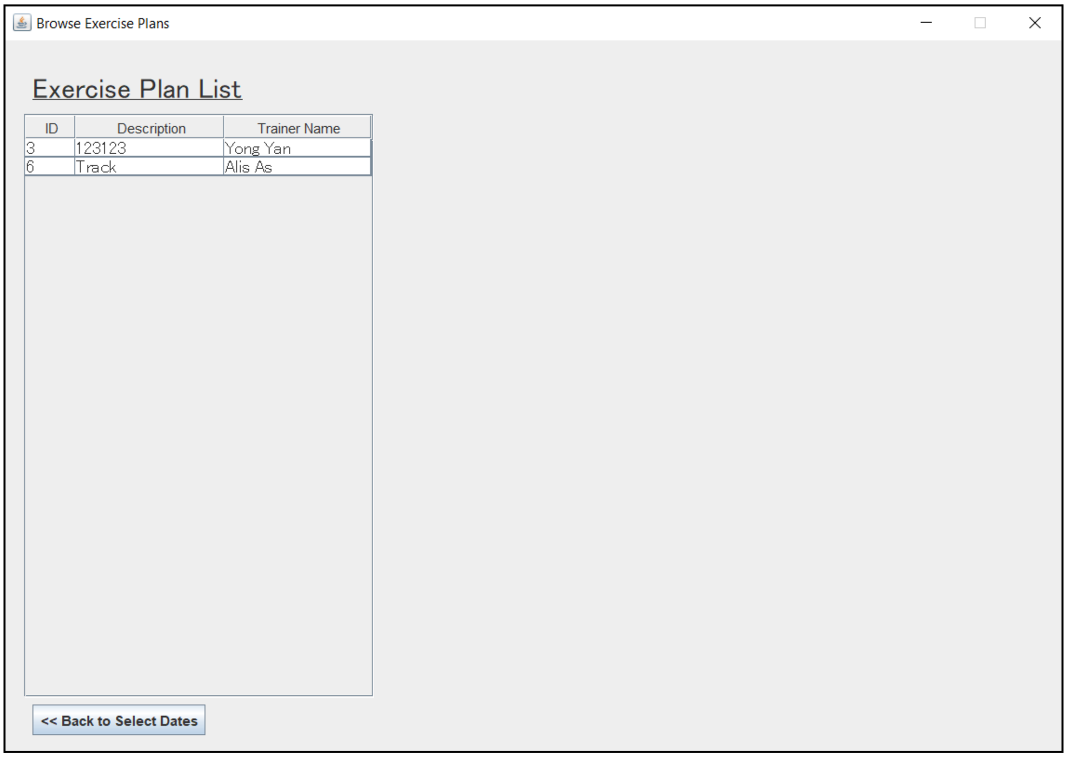


Select Subscription Duration

Subscription Duration (months): 1
Start Date: 2022-06-28
End Date: 2022-07-28

Figure 68: GUI of Configuring Subscription Duration and Date

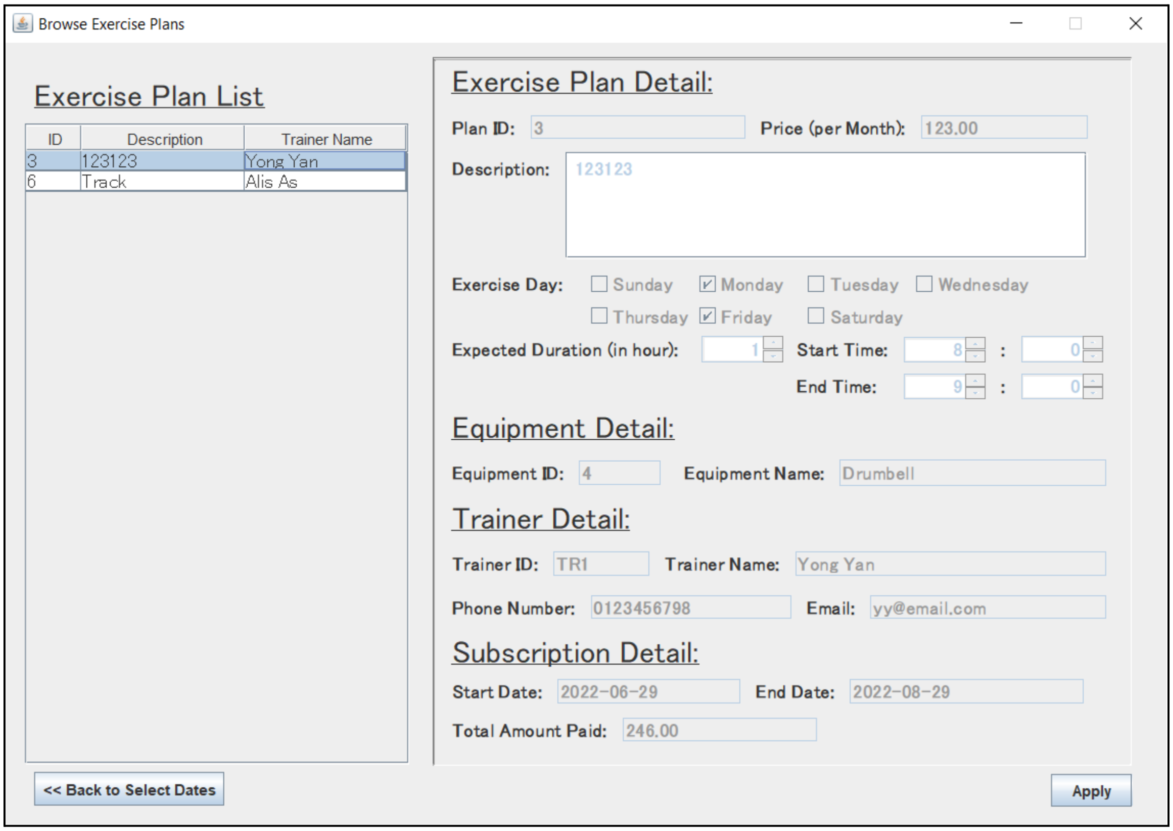
When the customer clicks on "Subscribe New Exercise Plan", a window will appear for the user to configure subscription duration (in months), as well as the start date. The end date will automatically be displayed based on the start date and duration selected by the customer.



Exercise Plan List

ID	Description	Trainer Name
3	123123	Yong Yan
6	Track	Alis As

Figure 69: GUI of Exercise Plan List



Exercise Plan List

ID	Description	Trainer Name
3	123123	Yong Yan
6	Track	Alis As

Exercise Plan Detail:

Plan ID: 3

Price (per Month): 123.00

Description: 123123

Exercise Day: □ Sunday ☑ Monday □ Tuesday □ Wednesday □ Thursday ☑ Friday □ Saturday

Expected Duration (in hour): 1

Start Time: 8 : 0

End Time: 9 : 0

Equipment Detail:

Equipment ID: 4

Equipment Name: Drumbell

Trainer Detail:

Trainer ID: TR1

Trainer Name: Yong Yan

Phone Number: 0123456798

Email: yy@email.com

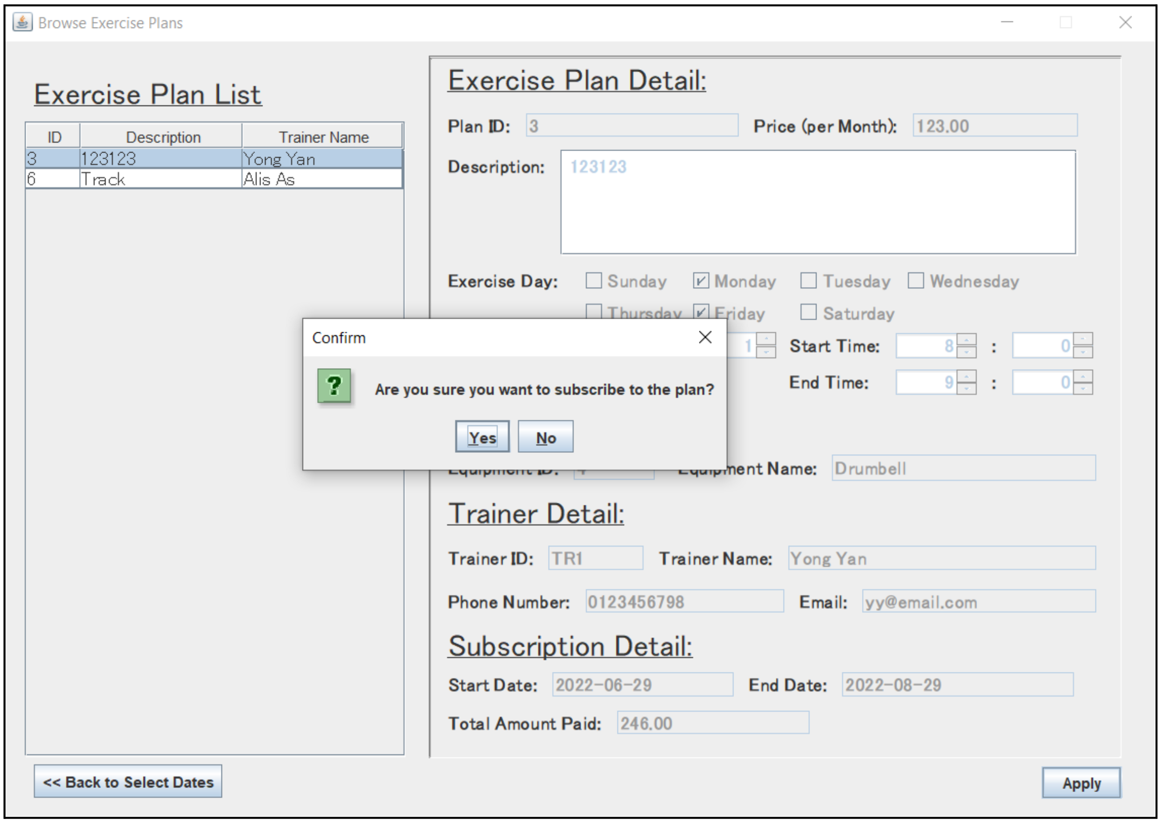
Subscription Detail:

Start Date: 2022-06-29

End Date: 2022-08-29

Total Amount Paid: 246.00

Figure 70: GUI of Viewing Selected Exercise Plan



Exercise Plan List

ID	Description	Trainer Name
3	123123	Yong Yan
6	Track	Alis As

Exercise Plan Detail:

Plan ID: 3 Price (per Month): 123.00

Description: 123123

Exercise Day: □ Sunday ☑ Monday □ Tuesday □ Wednesday □ Thursday ☑ Friday □ Saturday

1 Start Time: 8 : 0

End Time: 9 : 0

Equipment Name: Drumbell

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

Subscription Detail:

Start Date: 2022-06-29 End Date: 2022-08-29

Total Amount Paid: 246.00

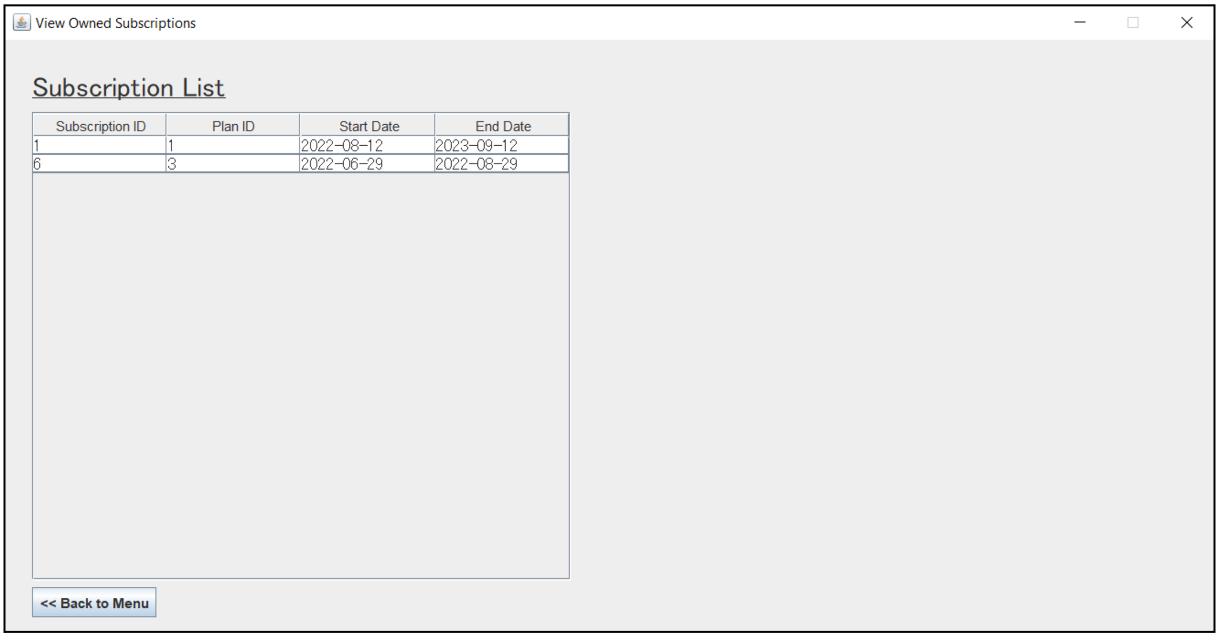
Confirm

Are you sure you want to subscribe to the plan?

Figure 71: Confirmation Message of Exercise Plan Application

After completion of duration and date configuration, the customer will be shown a list of available exercise plans. When the customer clicks on a particular exercise plan, the details of that exercise plan will be displayed. There is an “Apply” button which allows the customer to apply for that particular exercise plan. Upon clicking the “Apply” button, a window will appear, asking the customer for confirmation of applying for that exercise plan.

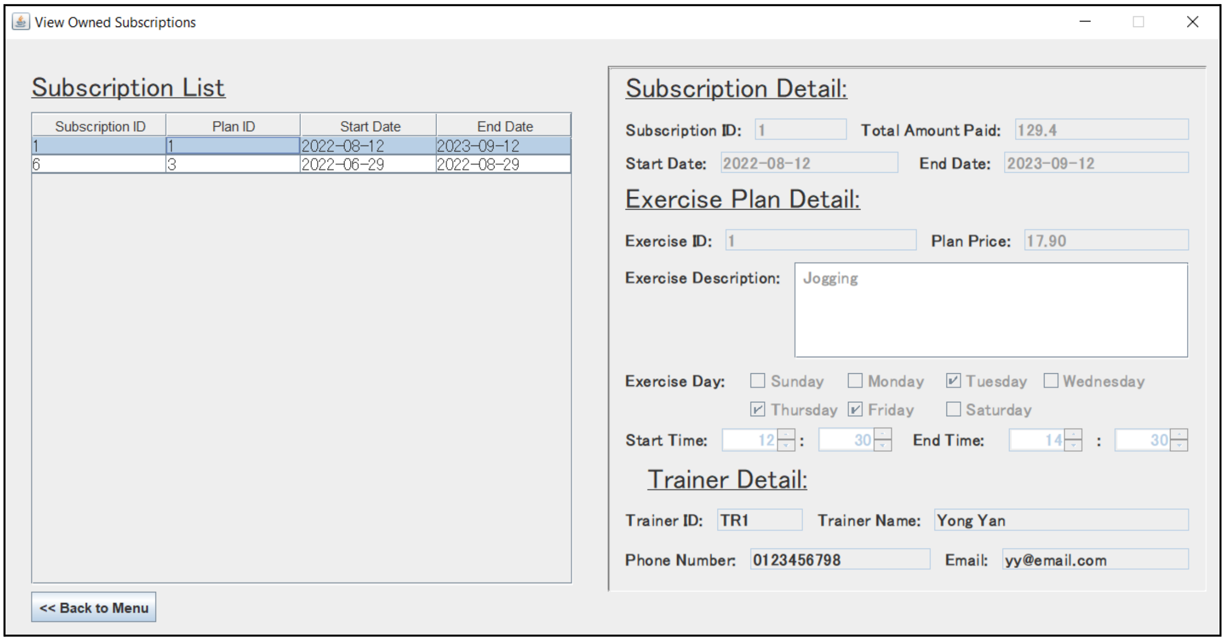
6.17 View Owned Subscriptions Page


View Owned Subscriptions

Subscription List

Subscription ID	Plan ID	Start Date	End Date
1	1	2022-08-12	2023-09-12
6	3	2022-06-29	2022-08-29

Figure 72: GUI of Exercise Plans Subscribed by Customer


View Owned Subscriptions

Subscription List

Subscription ID	Plan ID	Start Date	End Date
1	1	2022-08-12	2023-09-12
6	3	2022-06-29	2022-08-29

Subscription Detail:

Subscription ID: 1 Total Amount Paid: 129.4

Start Date: 2022-08-12 End Date: 2023-09-12

Exercise Plan Detail:

Exercise ID: 1 Plan Price: 17.90

Exercise Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

Start Time: 12 : 30 End Time: 14 : 30

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

Figure 73: GUI of Selected Exercise Plan Subscribed by Customer

When the customer clicks on "View Owned Subscriptions", a list of exercise plans subscribed by the customer will be displayed. The customer can then click on a particular exercise plan to view the details of each exercise plan.

CONCLUSION

The gym management system that can be used by administrator, staff, trainer and customer to perform the daily operations in a gym. The administrator or the owner of the gym has the privilege to manage all data related to the gym such as staff, trainer, customer, equipment, exercise plan, subscription and change the information about the gym such as gym's name and administrator password. For staff, they can manage trainers, customers, equipment, exercise plans and subscriptions. For trainers, they can manage exercise plans related to them whereas for customers, they can choose exercise plans to subscribe to if the exercise plans are still available based on the period they selected.

USER MANUAL

8.1 Staff Login

To login as a staff, the “Staff” button is selected in the main menu GUI and the login menu for the staff will be displayed as shown in the figures below. The staff can input their username and password in the username and password fields and click “Log in” button to login to the system. Table 3 and 4 show the sample inputs and outputs of staff login respectively.

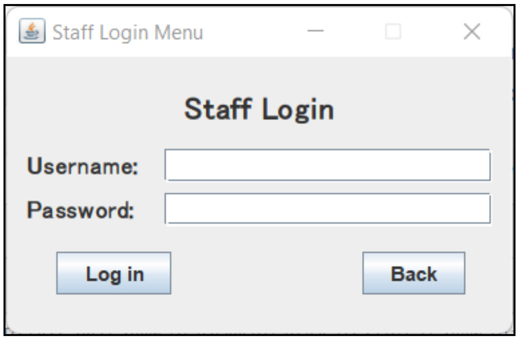


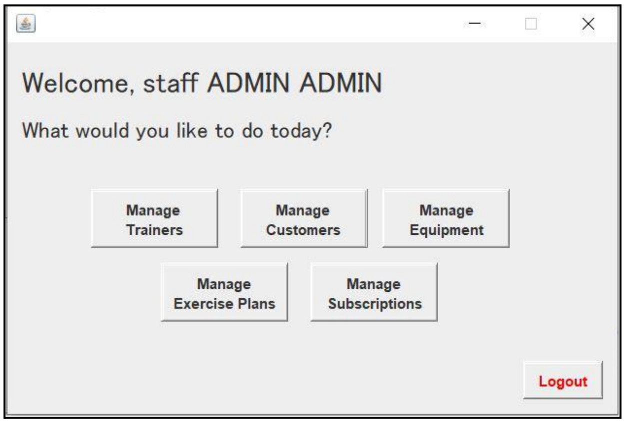
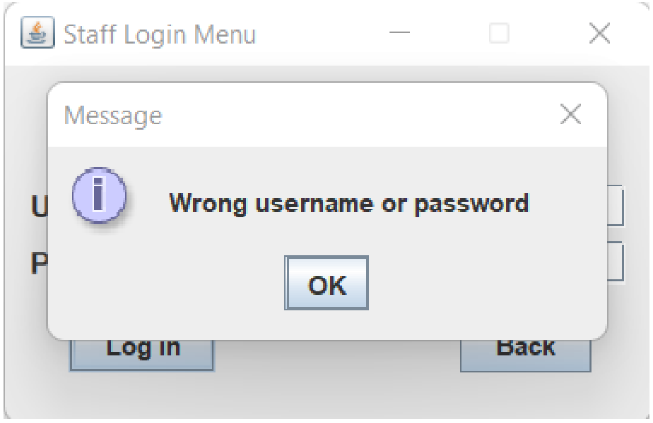
Figure 74: Staff Login Menu GUI

Table 3: Sample Inputs for Staff Login

No.	Username	Password
1	admin	admin
2	teoh	xian
3	sdasdas	aasdasdas

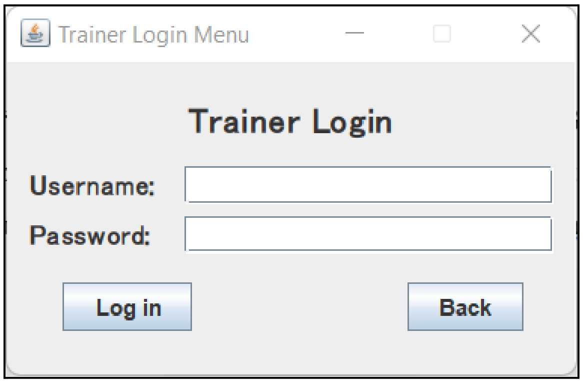
Table 4: Sample Outputs for Staff Login

No.	Description	Output Screen

1	Successful login will redirect the staff to staff main menu GUI	 Welcome, staff ADMIN ADMIN What would you like to do today? Manage Trainers Manage Customers Manage Equipment Manage Exercise Plans Manage Subscriptions Logout
2	Failure in login will display error message and allow users to re-enter username and password after clicking "OK"	 Staff Login Menu Message Wrong username or password

8.2 Trainer Login

To login as a trainer, the "Trainer" button is selected in the main menu GUI and the login menu for the trainer will be displayed as shown in the figure below. The trainer can input their username and password in the username and password fields and click "Log in" button to login to the system. Table 5 and 6 show the sample inputs and outputs for trainer login respectively.


Trainer Login Menu

Trainer Login

Username:

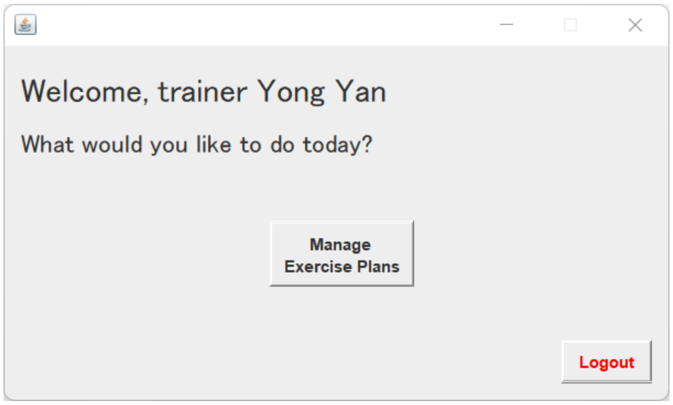
Password:

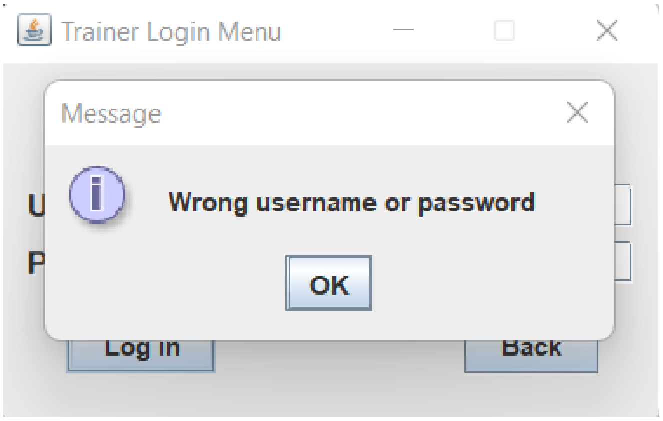
Figure 75: Trainer Login Menu GUI

Table 5: Sample Inputs for Trainer Login

No.	Username	Password
1	yy	222123
2	aisyah3	aisyah3
3	adamHafiz	hafiz132

Table 6: Sample Outputs for Trainer Login

No.	Description	Output Screen
1	Successful login will redirect the trainer to trainer main menu GUI	 Welcome, trainer Yong Yan What would you like to do today?

2	Failure in login will display error message and allow users to re-enter username and password after clicking “OK”	 Wrong username or password

8.3 Customer Login

To login as a customer, the “Customer” button is selected in the main menu GUI and the login menu for the customer will be displayed as shown in the figure below. The customer can input their username and password in the username and password fields and click “Log in” button to login to the system. Table 7 and 8 show the sample inputs and outputs for customer login respectively.

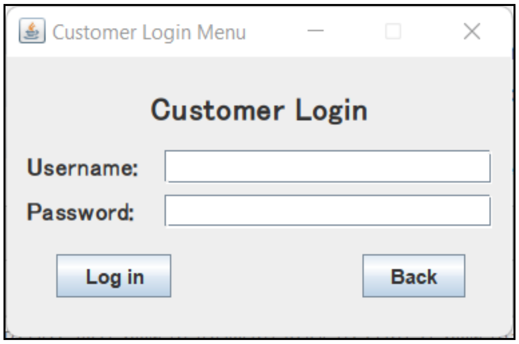
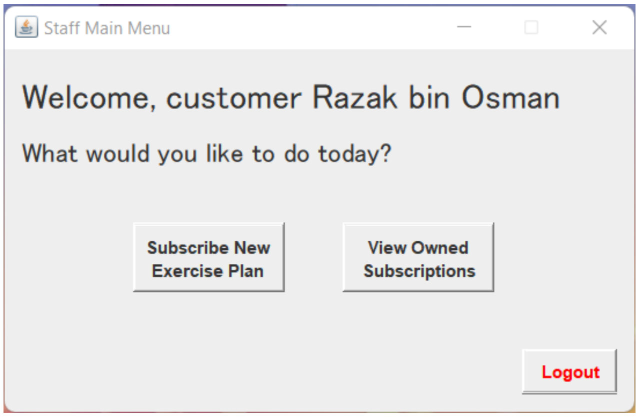
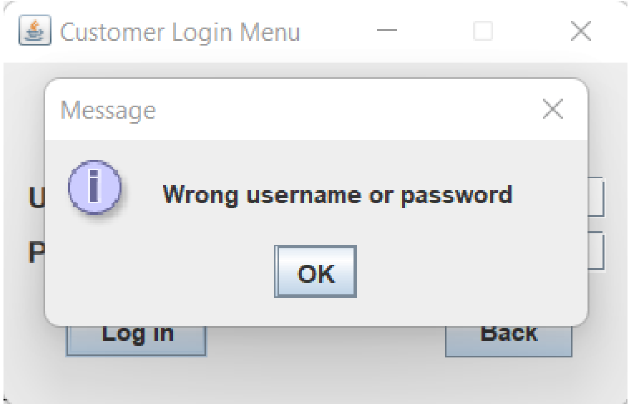


Figure 76: Customer Login Menu GUI

Table 7: Sample Inputs for Customer Login

No.	Username	Password
1	razak	1231
2	kangking	kangking
3	333333	21321312312312

Table 8: Sample Outputs for Customer Login

No.	Description	Output Screen
1	Successful login will redirect the customer to customer main menu GUI	 Staff Main Menu Welcome, customer Razak bin Osman What would you like to do today? Subscribe New Exercise Plan View Owned Subscriptions Logout
2	Failure in login will display error message and allow users to re-enter username and password after clicking "OK"	 Customer Login Menu Message Wrong username or password

8.4 Admin Login

To login as the admin, the "Admin" button is selected in the main menu GUI and the login menu for the admin will be displayed as shown in the figure below. The admin can input the username and password in the username and password fields and click "Log in" button to login to the system. Table 9 and 10 show the sample inputs and outputs for admin login respectively.

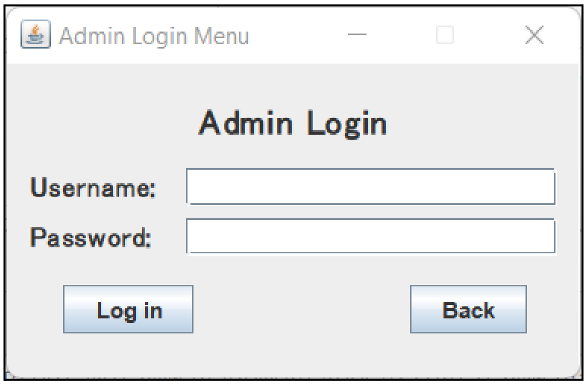
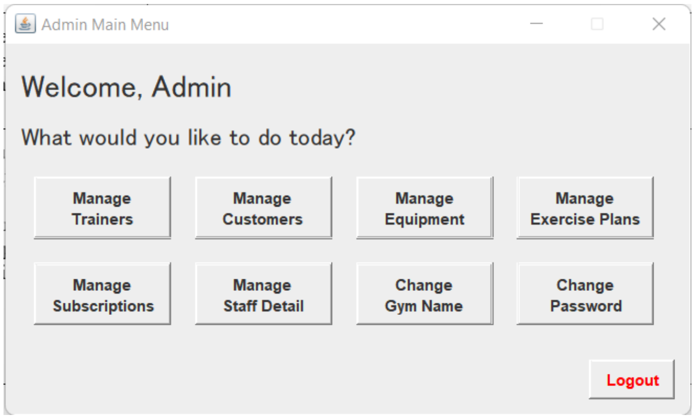
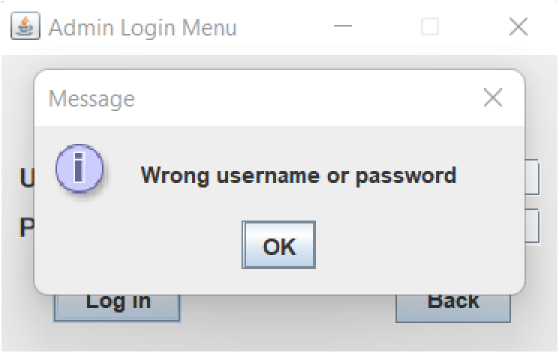


Figure 77: Admin Login Menu GUI

Table 9: Sample Inputs for Admin Login

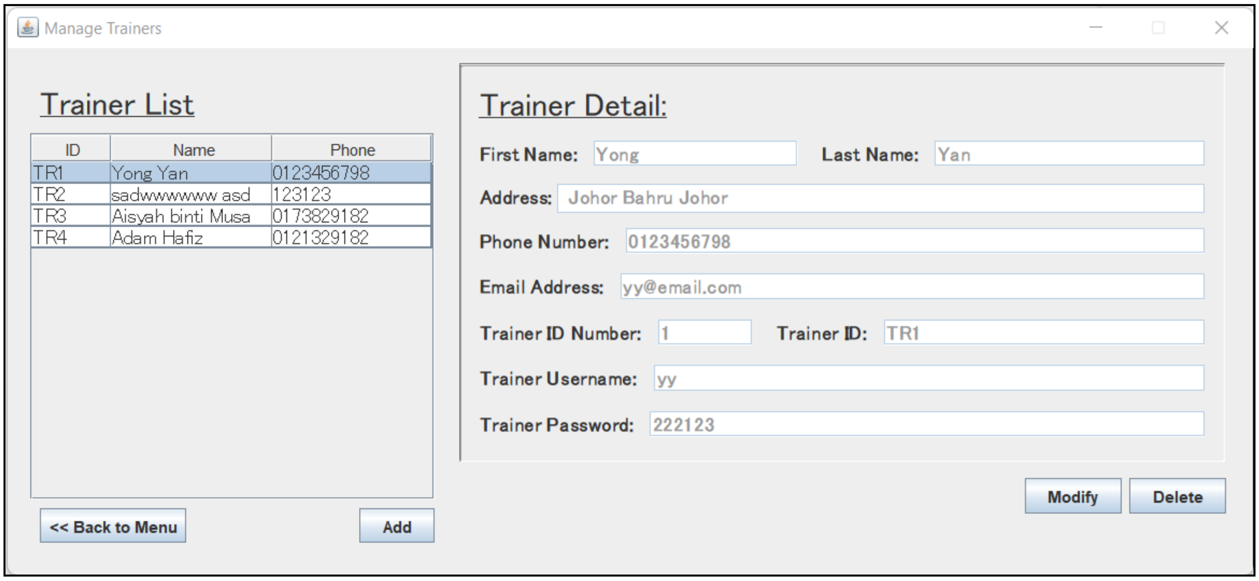
No.	Username	Password
1	admin	admin

Table 10: Sample Outputs for Admin Login

No.	Description	Output Screen
1	Successful login will redirect the admin to admin main menu GUI	 Welcome, Admin What would you like to do today? Admin Main Menu Manage Trainers Manage Customers Manage Equipment Manage Exercise Plans Manage Subscriptions Manage Staff Detail Change Gym Name Change Password Logout
2	Failure in login will display error message and allow users to re-enter username and password after clicking "OK"	 Wrong username or password

8.5 View and Delete Trainers

To view or delete trainers' information, the user must first login as the admin or a staff. After the user successfully logged in as the admin or a staff, the users can select "Manage Trainers" button in their main menus. To view a trainer information, the users can select any trainer from the trainer list to display the selected trainer information as shown in Figure 78 whereas to delete a trainer information, the users can click on "Delete" button after selecting a trainer from the trainer list as shown in Figure 79.



Trainer List

ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwww asd	123123
TR3	Aisyah binti Musa	0173829182
TR4	Adam Hafiz	0121329182

Trainer Detail:

First Name: Yong Last Name: Yan

Address: Johor Bahru Johor

Phone Number: 0123456798

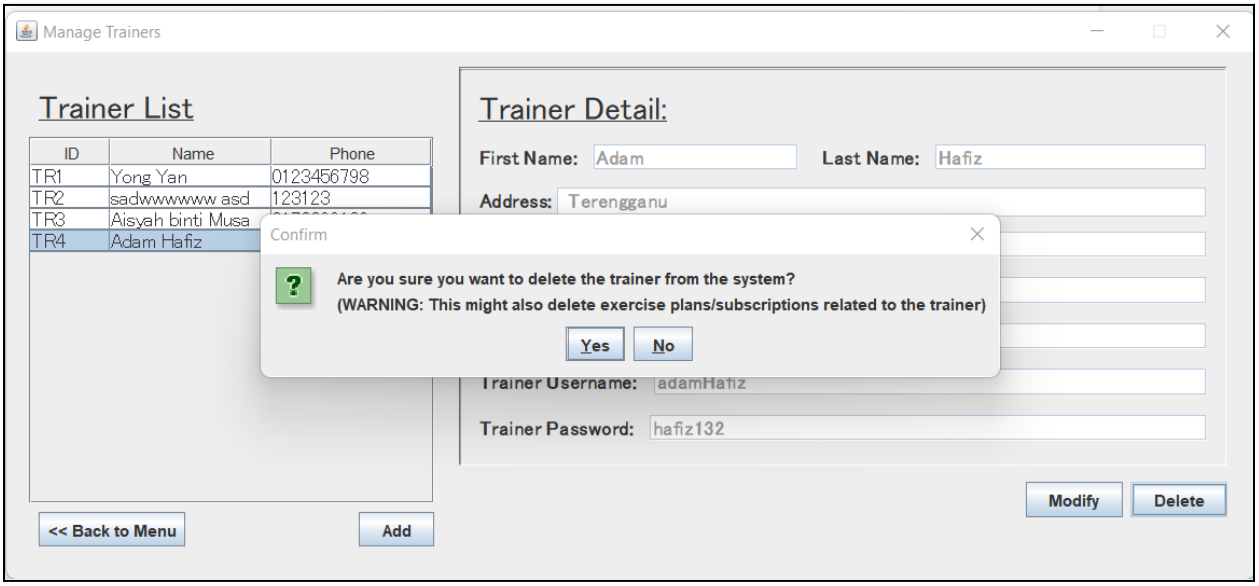
Email Address: yy@email.com

Trainer ID Number: 1 Trainer ID: TR1

Trainer Username: yy

Trainer Password: 222123

Figure 78: View Trainer Information GUI



Trainer List

ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwww asd	123123
TR3	Aisyah binti Musa	
TR4	Adam Hafiz	

Trainer Detail:

First Name: Adam Last Name: Hafiz

Address: Terengganu

Trainer Username: adamHafiz

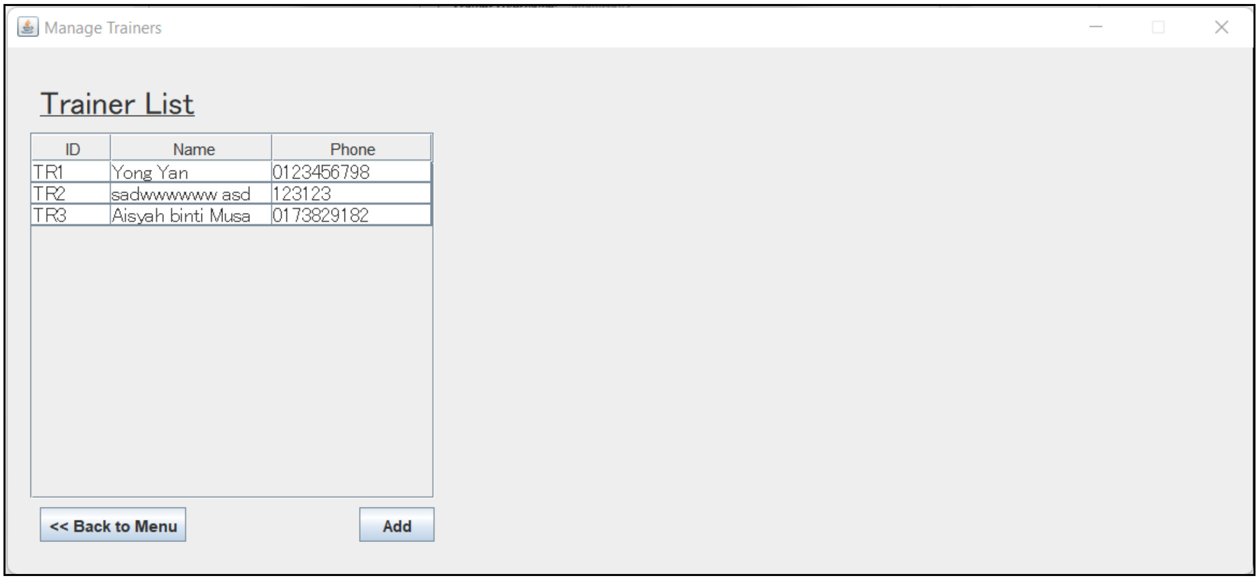
Trainer Password: hafiz132

Confirm

Are you sure you want to delete the trainer from the system?
(WARNING: This might also delete exercise plans/subscriptions related to the trainer)

Figure 79: Delete Trainer GUI

There are no input fields required in viewing and deleting the trainer. The only input action considered in viewing trainer information is selecting a trainer from the trainer list, whereas the input actions considered in deleting trainer are selecting "Delete" button and clicking on "Yes" to delete the selected trainer. The example of output of viewing can be shown in Figure 79 above whereas the example of output of deleting a trainer is shown in figure below.

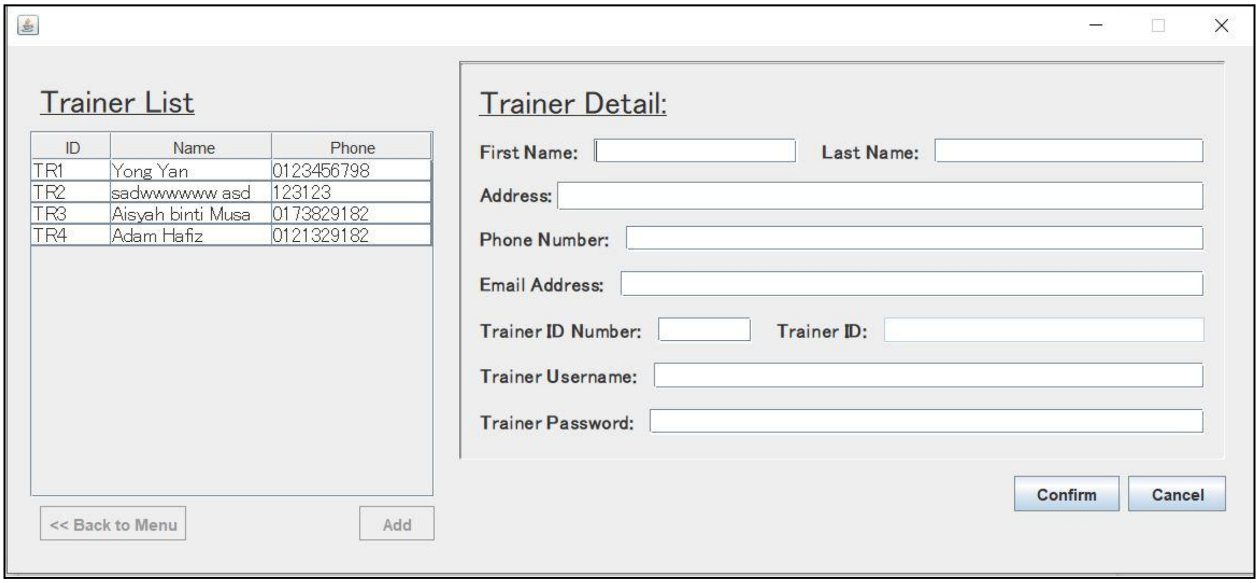


ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwww asd	123123
TR3	Aisyah binti Musa	0173829182

Figure 80: Trainer List after Deleting a Trainer from the System

8.6 Add and Modify Trainers

To add or modify trainers' information, the user must first login as the admin or a staff. After the user successfully logged in as the admin or a staff, the users can select "Manage Trainers" button in their main menus. To add a new trainer, the users can click on "Add" button to display the form shown in Figure 81 whereas to modify a trainer information, the users can select a trainer from the trainer list and click on "Modify" button as shown in Figure 82. Table 11 and 12 show the sample inputs and outputs for add or modifying trainer information respectively.



Trainer List

ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwww asd	123123
TR3	Aisyah binti Musa	0173829182
TR4	Adam Hafiz	0121329182

Trainer Detail:

First Name: Last Name:

Address:

Phone Number:

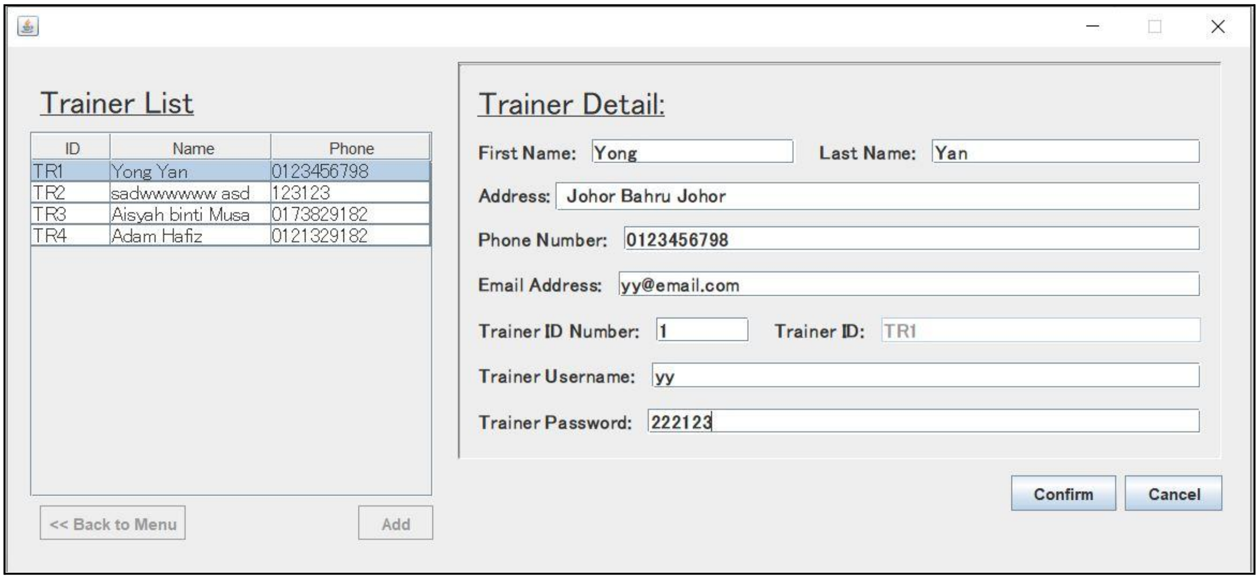
Email Address:

Trainer ID Number: Trainer ID:

Trainer Username:

Trainer Password:

Figure 81: Add Trainer GUI



Trainer List

ID	Name	Phone
TR1	Yong Yan	0123456798
TR2	sadwwwwww asd	123123
TR3	Aisyah binti Musa	0173829182
TR4	Adam Hafiz	0121329182

Trainer Detail:

First Name: Yong Last Name: Yan

Address: Johor Bahru Johor

Phone Number: 0123456798

Email Address: yy@email.com

Trainer ID Number: 1 Trainer ID: TR1

Trainer Username: yy

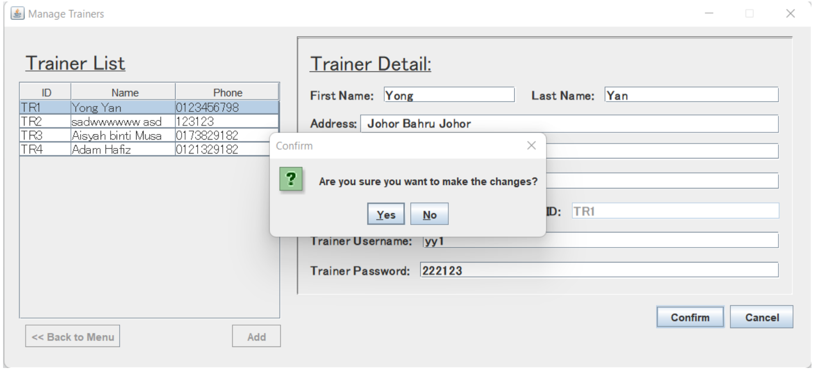
Trainer Password: 222123

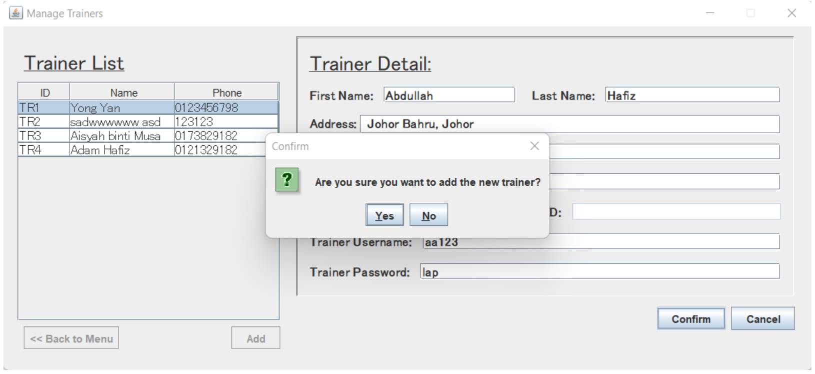
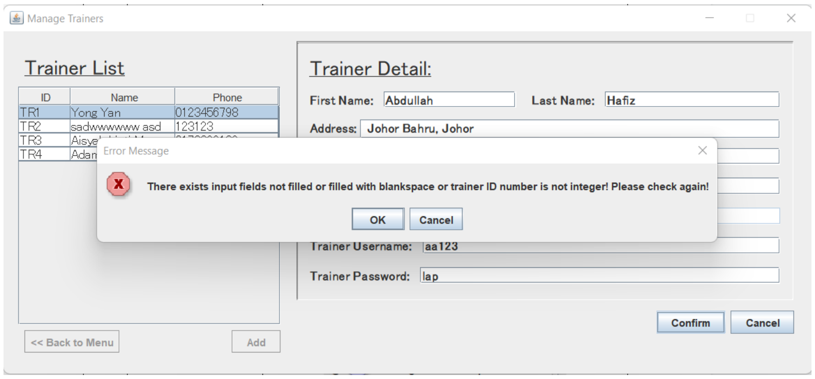
Figure 82: Modify Trainer GUI

Table 11: Sample Inputs for Add or Modifying Trainer Information

Field	Valid Condition	Example
First Name	Any inputs	Yong / Abdullah / Aisyah
Last Name	Any inputs	Yan / binti Musa / Hafiz
Address	Any inputs	Johor Bahru, Johor
Phone Number	Any inputs	0123456789 / 01110339282
Email Address	Any inputs	yy@email.com / aa@email.com
Trainer ID Number	Integer and is not used by other trainer except the current modifying trainer	1 / 2 / 3
Trainer Username	Any inputs and is not used by other trainer except the current modifying trainer	yy / aa123 / aisyah3
Trainer Password	Any inputs	222123 / yy / lap

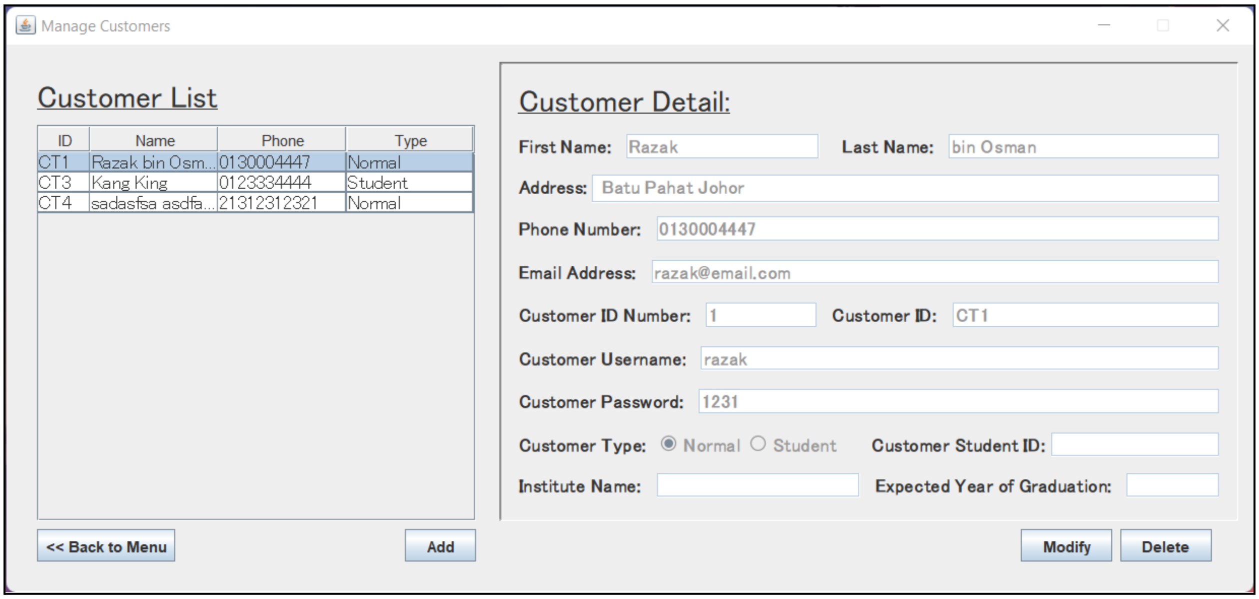
Table 12: Sample Outputs for Add or Modifying Trainer Information

No.	Description	Output Screen
1	Click "Confirm" button and there are no blank inputs or invalid data inputs. Selecting "Yes" will modify the data and "No" will return to change value. (Modifying Trainer Data)	 Manage Trainers Trainer List ID | Name | Phone TR1 | Yong Yan | 0123456798 TR2 | sadwwwwww asd | 123123 TR3 | Aisyah binti Musa | 0173829182 TR4 | Adam Hafiz | 0121329182 Trainer Detail: First Name: Yong Last Name: Yan Address: Johor Bahru Johor ID: TR1 Trainer Username: yy1 Trainer Password: 222123 Confirm Are you sure you want to make the changes?

2	Click "Confirm" button and there are no blank inputs or invalid data inputs. Selecting "Yes" will add the data and "No" will return to change value. (Add Trainer)	 Manage Trainers Trainer List ID | Name | Phone TR1 | Yong Yan | 0123456798 TR2 | sadwwwwww asd | 123123 TR3 | Aisyah binti Musa | 0173829182 TR4 | Adam Hafiz | 0121329182 Trainer Detail: First Name: Abdullah Last Name: Hafiz Address: Johor Bahru, Johor Trainer Username: aa123 Trainer Password: lap Confirm Are you sure you want to add the new trainer? Yes No << Back to Menu Add Confirm Cancel
3	Click "Confirm" button and there are blank inputs or invalid data inputs.	 Manage Trainers Trainer List ID | Name | Phone TR1 | Yong Yan | 0123456798 TR2 | sadwwwwww asd | 123123 TR3 | Aisya TR4 | Adan Trainer Detail: First Name: Abdullah Last Name: Hafiz Address: Johor Bahru, Johor Trainer Username: aa123 Trainer Password: lap Error Message There exists input fields not filled or filled with blankspace or trainer ID number is not integer! Please check again! OK Cancel << Back to Menu Add Confirm Cancel

8.7 View and Delete Customers

To view or delete customers' information, the user must first login as the admin or a staff. After the user successfully logged in as the admin or a staff, the users can select "Manage Customers" button in their main menus. To view a customer information, the users can select any customer from the customer list to display the selected customer information as shown in Figure 83 whereas to delete a customer information, the users can click on "Delete" button after selecting a customer from the customer list as shown in Figure 84.



Manage Customers

Customer List

ID	Name	Phone	Type
CT1	Razak bin Osm...	0130004447	Normal
CT3	Kang King	0123334444	Student
CT4	sadasfsa asdfa...	21312312321	Normal

Customer Detail:

First Name: Razak Last Name: bin Osman

Address: Batu Pahat Johor

Phone Number: 0130004447

Email Address: razak@email.com

Customer ID Number: 1 Customer ID: CT1

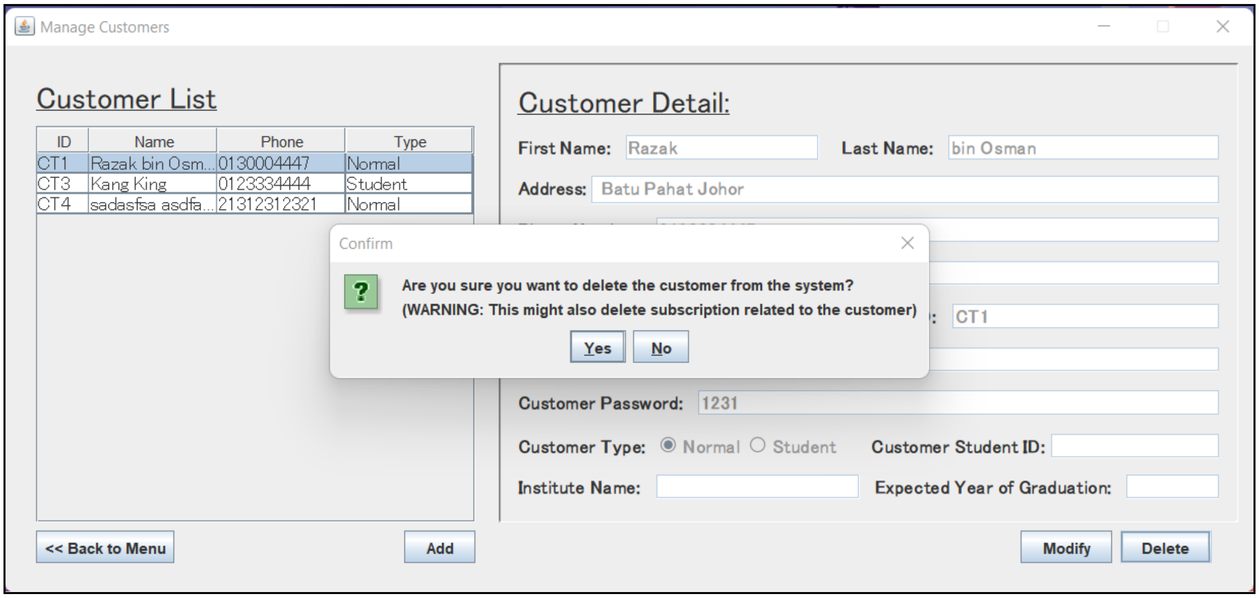
Customer Username: razak

Customer Password: 1231

Customer Type: ● Normal ○ Student Customer Student ID:

Institute Name: Expected Year of Graduation:

Figure 83: View Customer Information GUI



Manage Customers

Customer List

ID	Name	Phone	Type
CT1	Razak bin Osm...	0130004447	Normal
CT3	Kang King	0123334444	Student
CT4	sadasfsa asdfa...	21312312321	Normal

Customer Detail:

First Name: Razak Last Name: bin Osman

Address: Batu Pahat Johor

CT1

Customer Password: 1231

Customer Type: ● Normal ○ Student Customer Student ID:

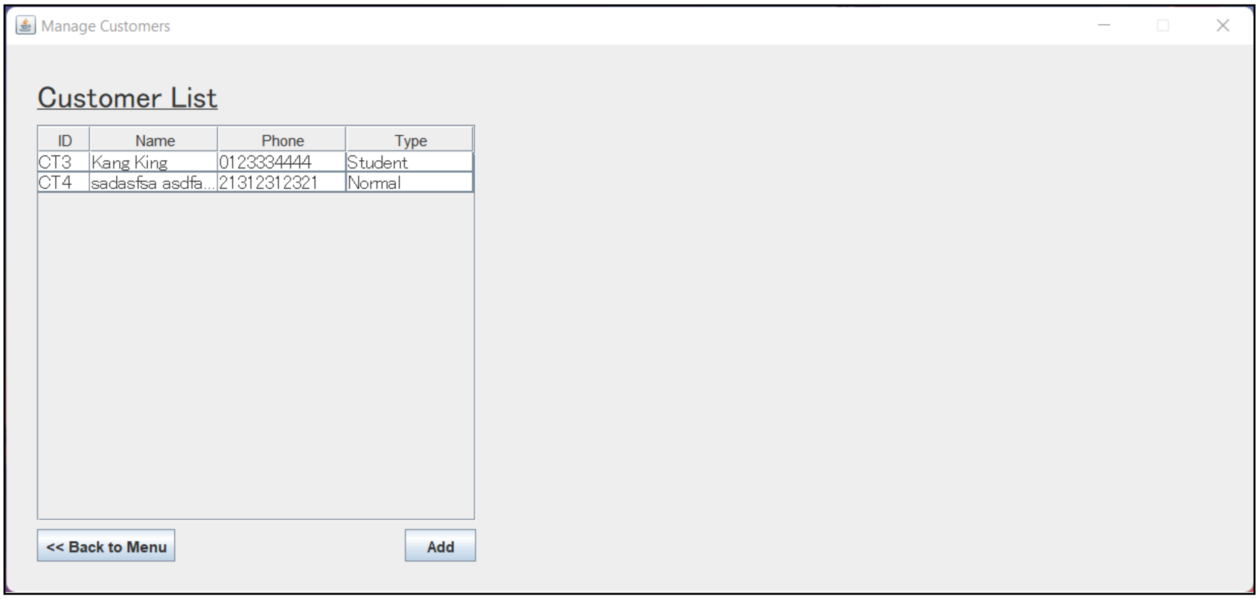
Institute Name: Expected Year of Graduation:

Confirm

Are you sure you want to delete the customer from the system?
(WARNING: This might also delete subscription related to the customer)

Figure 84: Delete Customer GUI

There are no input fields required in viewing and deleting the customer. The only input action considered in viewing customer information is selecting a customer from the customer list, whereas the input actions considered in deleting customer are selecting “Delete” button and clicking on “Yes” to delete the selected customer. The example of output of viewing can be shown in Figure 84 above whereas the example of output of deleting a customer is shown in figure below.

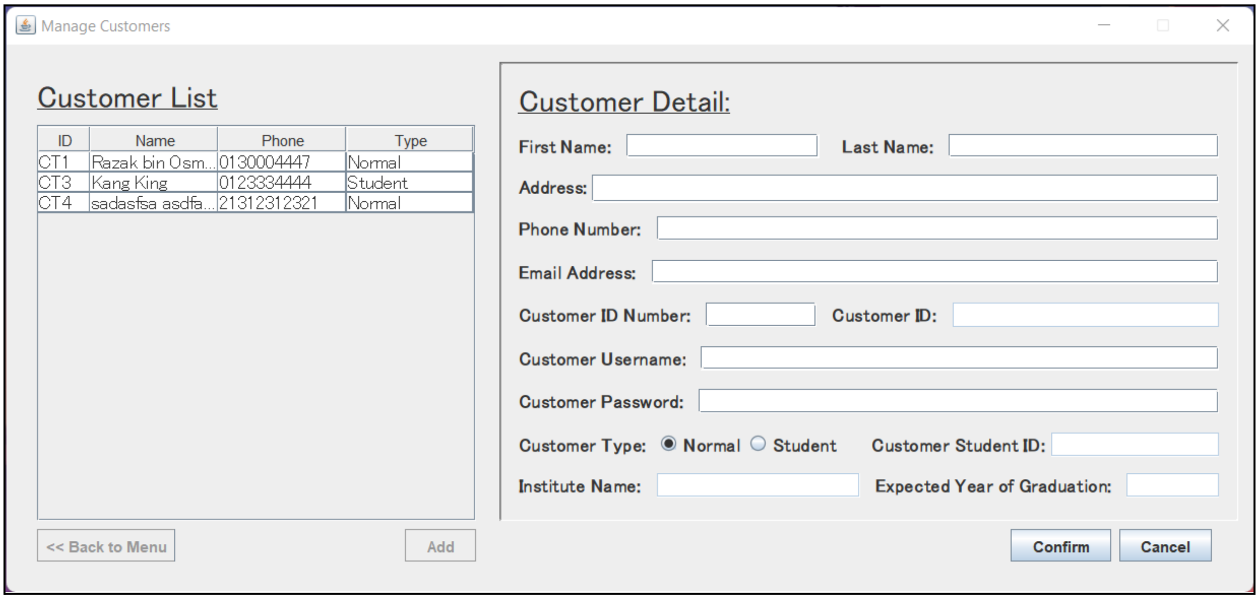


ID	Name	Phone	Type
CT3	Kang King	0123334444	Student
CT4	sadasfsa asdfa...	21312312321	Normal

Figure 85: Customer List after Deleting a Customer from the System

8.8 Add and Modify Customers

To add or modify customers' information, the user must first login as the admin or a staff. After the user successfully logged in as the admin or a staff, the users can select "Manage Customers" button in their main menus. To add a new customer, the users can click on "Add" button to display the form shown in Figure 86 whereas to modify a customer information, the users can select a customer from the customer list and click on "Modify" button as shown in Figure 87. Table 13 and 14 show the sample inputs and outputs for add or modifying customer information respectively.



ID	Name	Phone	Type
CT1	Razak bin Osm...	0130004447	Normal
CT3	Kang King	0123334444	Student
CT4	sadasfsa asdfa...	21312312321	Normal

First Name: Last Name:

Address:

Phone Number:

Email Address:

Customer ID Number: Customer ID:

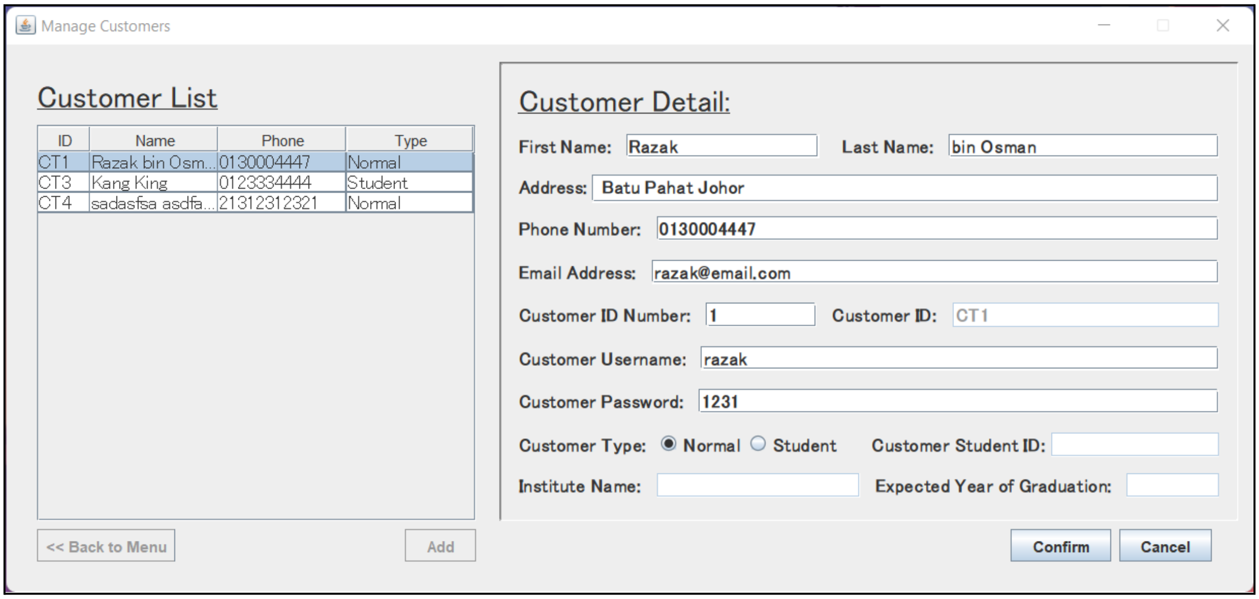
Customer Username:

Customer Password:

Customer Type: ● Normal ○ Student Customer Student ID:

Institute Name: Expected Year of Graduation:

Figure 86: Add Customer GUI



ID	Name	Phone	Type
CT1	Razak bin Osm...	0130004447	Normal
CT3	Kang King	0123334444	Student
CT4	sadasfsa asdfa...	21312312321	Normal

First Name: Razak Last Name: bin Osman

Address: Batu Pahat Johor

Phone Number: 0130004447

Email Address: razak@email.com

Customer ID Number: 1 Customer ID: CT1

Customer Username: razak

Customer Password: 1231

Customer Type: ● Normal ○ Student Customer Student ID:

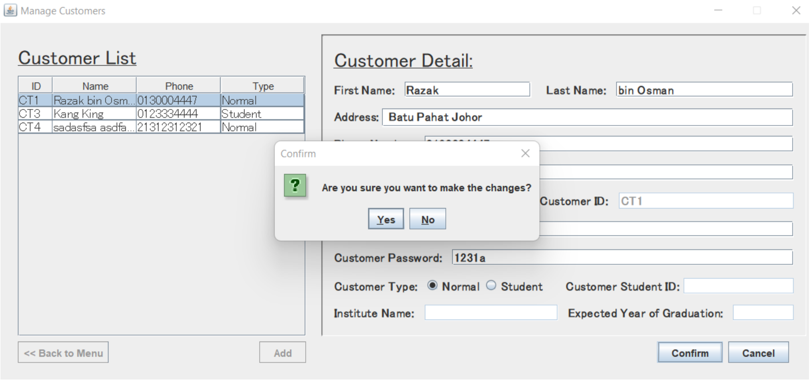
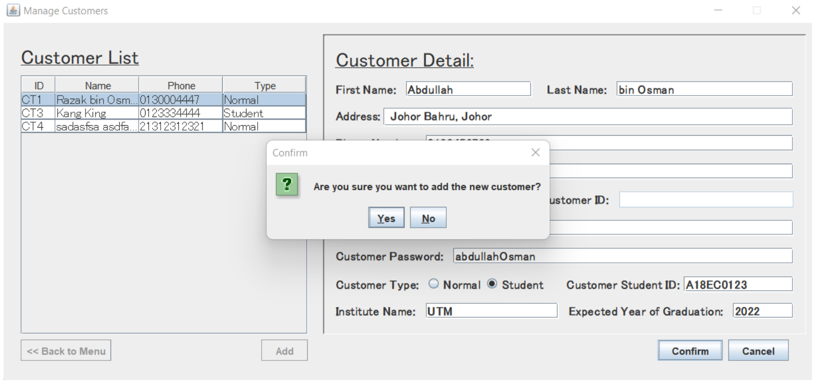
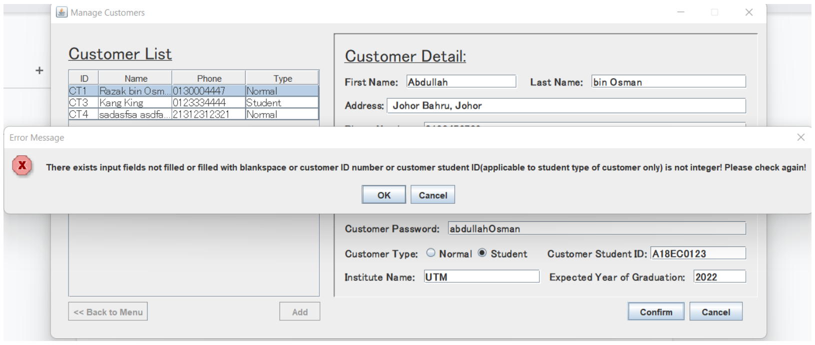
Institute Name: Expected Year of Graduation:

Figure 87: Modify Customer GUI

Table 12: Sample Inputs for Add or Modifying Customer Information

Field	Valid Condition	Example
First Name	Any inputs	Razak / Abdullah / Kang
Last Name	Any inputs	bin Osman / binti Musa / King
Address	Any inputs	Johor Bahru, Johor
Phone Number	Any inputs	0123456789 / 01110339282
Email Address	Any inputs	razak@email.com / aa@email.com
Customer ID Number	Integer and is not used by other customer except the current modifying customer	1 / 2 / 3
Customer Username	Any inputs and is not used by other customer except the current modifying customer	razak / aa123 / kangking
Customer Password	Any inputs	1231 / aa / kangking
Customer Type	Selection of Normal or Student	Normal / Student
If customer type selected is Student		
Customer Student ID	Any inputs	A18EC0123 / A18306
Institute Name	Any inputs	UTM / UKM / UM
Expected Year of Graduation	Integer	2012 / 2022 / 2026

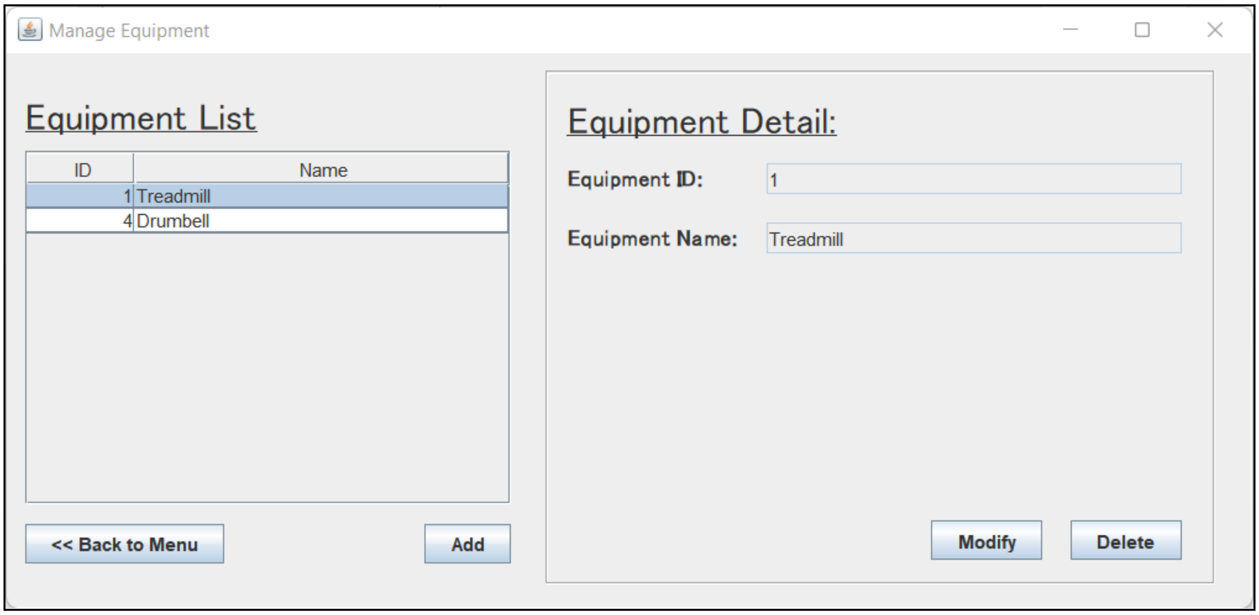
Table 13: Sample Outputs for Add or Modifying Customer Information

No.	Description	Output Screen
1	Click "Confirm" button and there are no blank inputs or invalid data inputs. Selecting "Yes" will modify the data and "No" will return to change value. (Modifying Customer Data)	 Manage Customers Customer List ID Name Phone Type CT1 Razak bin Osm... 0130004447 Normal CT3 Kang King 0123334444 Student CT4 sadasfsa asdfa... 21312312321 Normal Customer Detail: First Name: Razak Last Name: bin Osman Address: Batu Pahat Johor Customer ID: CT1 Customer Password: 1231a Customer Type: ● Normal ○ Student Customer Student ID: Institute Name: Expected Year of Graduation: Confirm Are you sure you want to make the changes? Yes No << Back to Menu Add Confirm Cancel
2	Click "Confirm" button and there are no blank inputs or invalid data inputs. Selecting "Yes" will add the data and "No" will return to change value. (Add Customer)	 Manage Customers Customer List ID Name Phone Type CT1 Razak bin Osm... 0130004447 Normal CT3 Kang King 0123334444 Student CT4 sadasfsa asdfa... 21312312321 Normal Customer Detail: First Name: Abdullah Last Name: bin Osman Address: Johor Bahru, Johor ustomer ID: Customer Password: abdullahOsman Customer Type: ○ Normal ● Student Customer Student ID: A18EC0123 Institute Name: UTM Expected Year of Graduation: 2022 Confirm Are you sure you want to add the new customer? Yes No << Back to Menu Add Confirm Cancel
3	Click "Confirm" button and there are blank inputs or invalid data inputs.	 Manage Customers Customer List ID Name Phone Type CT1 Razak bin Osm... 0130004447 Normal CT3 Kang King 0123334444 Student CT4 sadasfsa asdfa... 21312312321 Normal Customer Detail: First Name: Abdullah Last Name: bin Osman Address: Johor Bahru, Johor Customer Password: abdullahOsman Customer Type: ○ Normal ● Student Customer Student ID: A18EC0123 Institute Name: UTM Expected Year of Graduation: 2022 Error Message There exists input fields not filled or filled with blankspace or customer ID number or customer student ID(applicable to student type of customer only) is not integer! Please check again! OK Cancel << Back to Menu Add Confirm Cancel

8.9 View and Delete Equipment

To view or delete equipment's information, the user must first login as the admin or a staff. After the user successfully logged in as the admin or a staff, the users can select "Manage

Equipment" button in their main menus. To view equipment information, the users can select any equipment from the equipment list to display the selected equipment information as shown in Figure 88 whereas to delete an equipment information, the users can click on "Delete" button after selecting an equipment from the equipment list as shown in Figure 89.

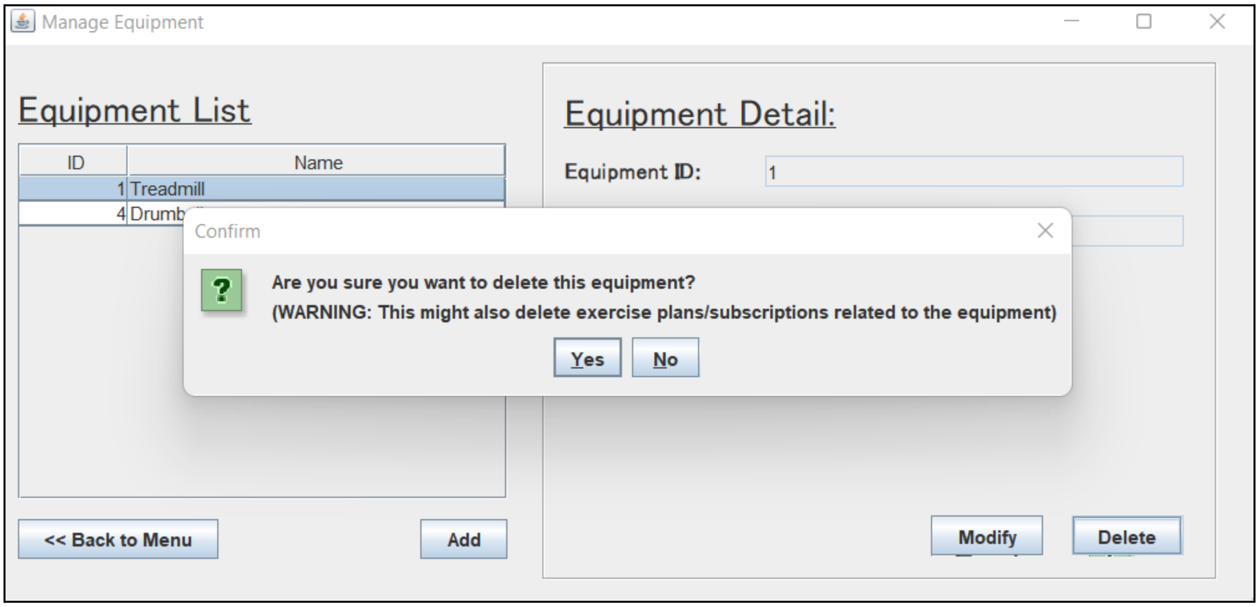


ID	Name
1	Treadmill
4	Drumbell

Equipment ID: 1

Equipment Name: Treadmill

Figure 88: View Equipment Information GUI



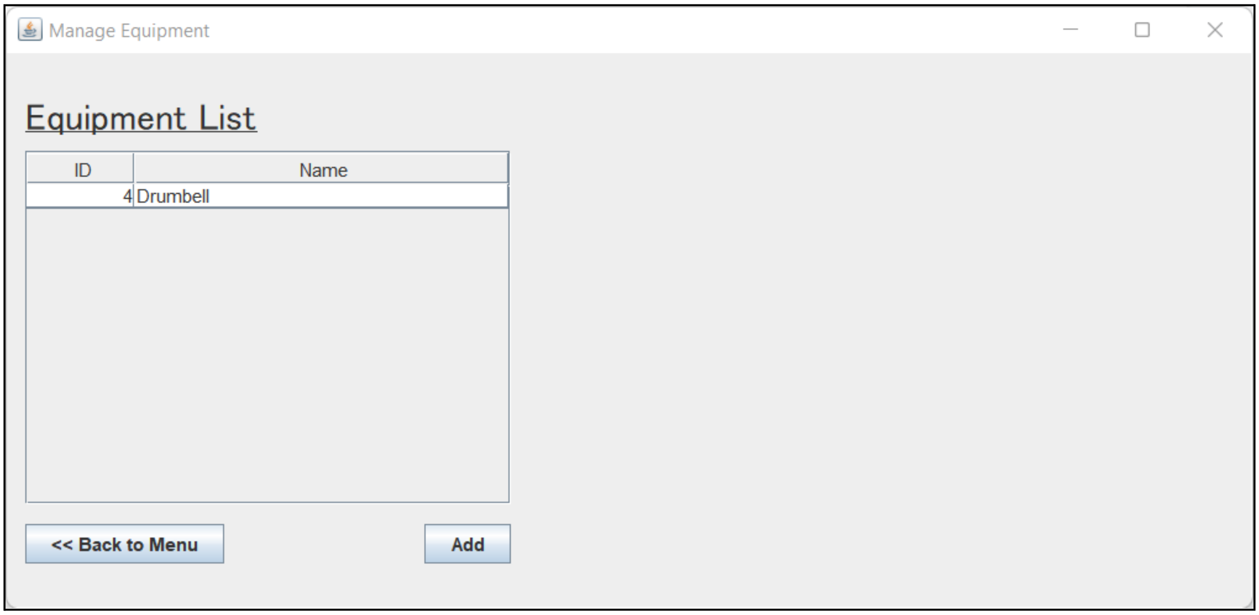
ID	Name
1	Treadmill
4	Drumb

Equipment ID: 1

Are you sure you want to delete this equipment?
(WARNING: This might also delete exercise plans/subscriptions related to the equipment)

Figure 89: Delete Equipment GUI

There are no input fields required in viewing and deleting the equipment. The only input action considered in viewing equipment information is selecting an equipment from the equipment list, whereas the input actions considered in deleting equipment are selecting "Delete" button and clicking on "Yes" to delete the selected equipment. The example of output of viewing can be shown in Figure 89 above whereas the example of output of deleting a equipment is shown in figure below.

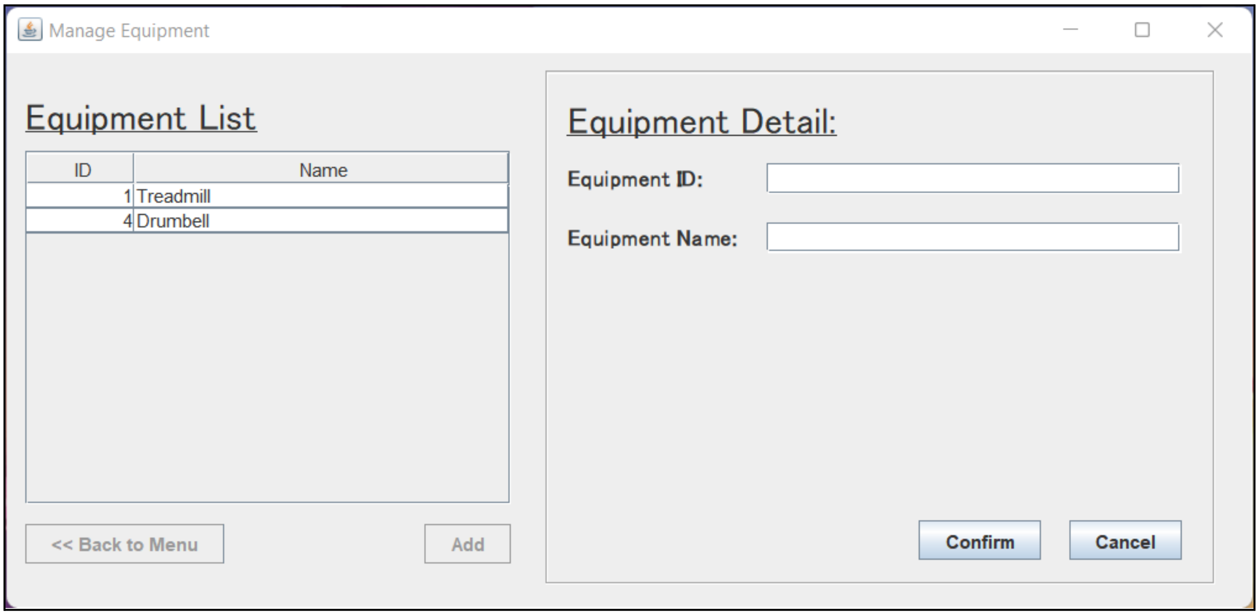


ID	Name
4	Drumbell

Figure 90: Equipment List after Deleting a Equipment from the System

8.10 Add and Modify Equipment

To add or modify equipment's information, the user must first login as the admin or a staff. After the user successfully logged in as the admin or a staff, the users can select "Manage Equipment" button in their main menus. To add a new customer, the users can click on "Add" button to display the form shown in Figure 91 whereas to modify an equipment information, the users can select an equipment from the equipment list and click on "Modify" button as shown in Figure 92. Table 15 and 16 show the sample inputs and outputs for add or modifying equipment information respectively.

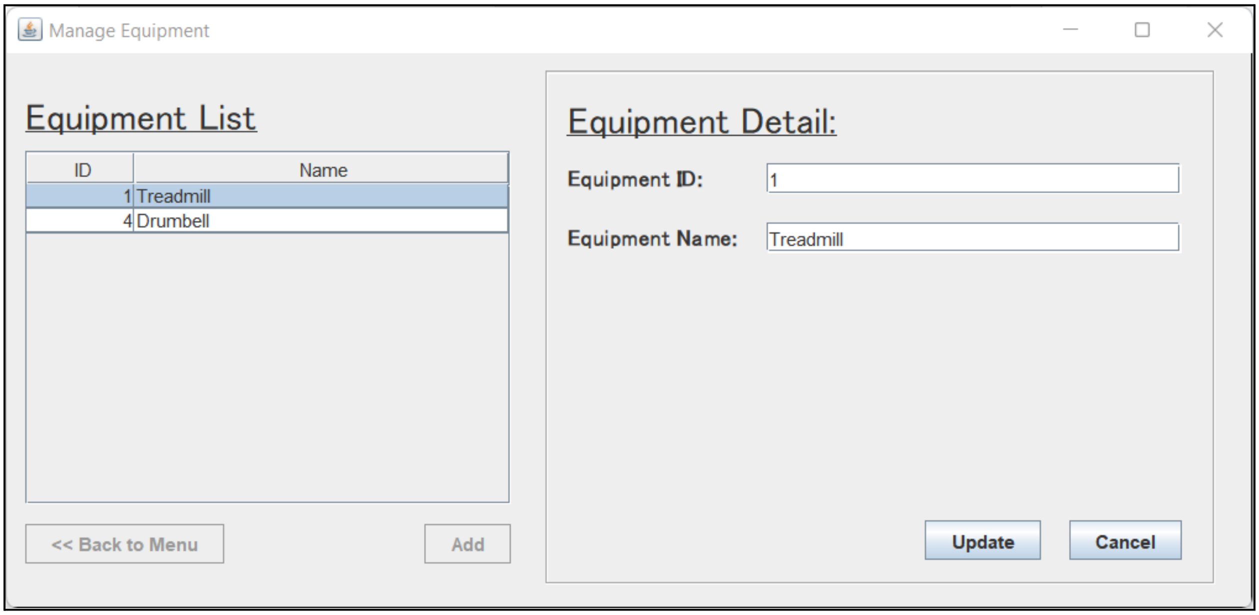


ID	Name
1	Treadmill
4	Drumbell

Equipment ID:

Equipment Name:

Figure 91: Add Equipment GUI



ID	Name
1	Treadmill
4	Drumbell

Equipment ID: 1

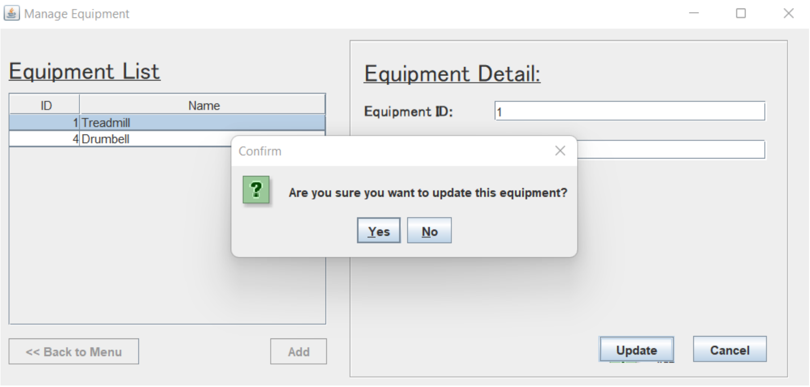
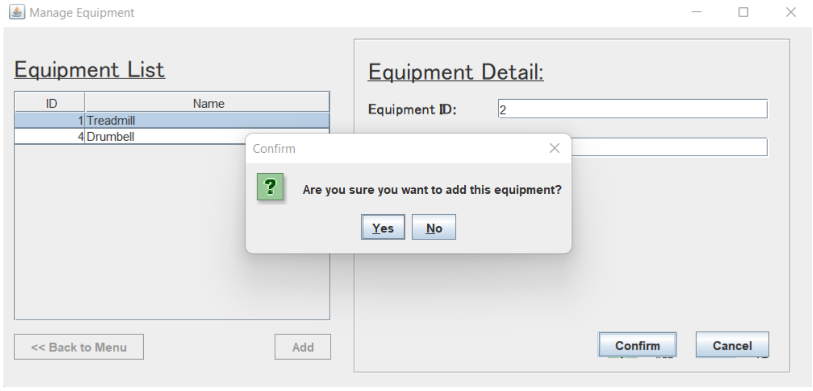
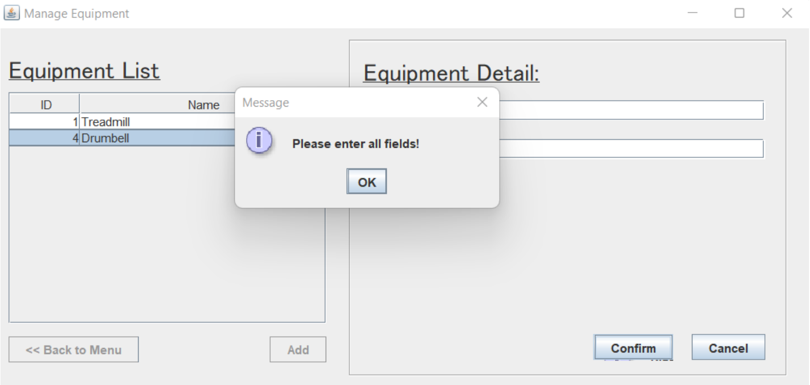
Equipment Name: Treadmill

Figure 92: Modify Equipment GUI

Table 13: Sample Inputs for Add or Modifying Equipment Information

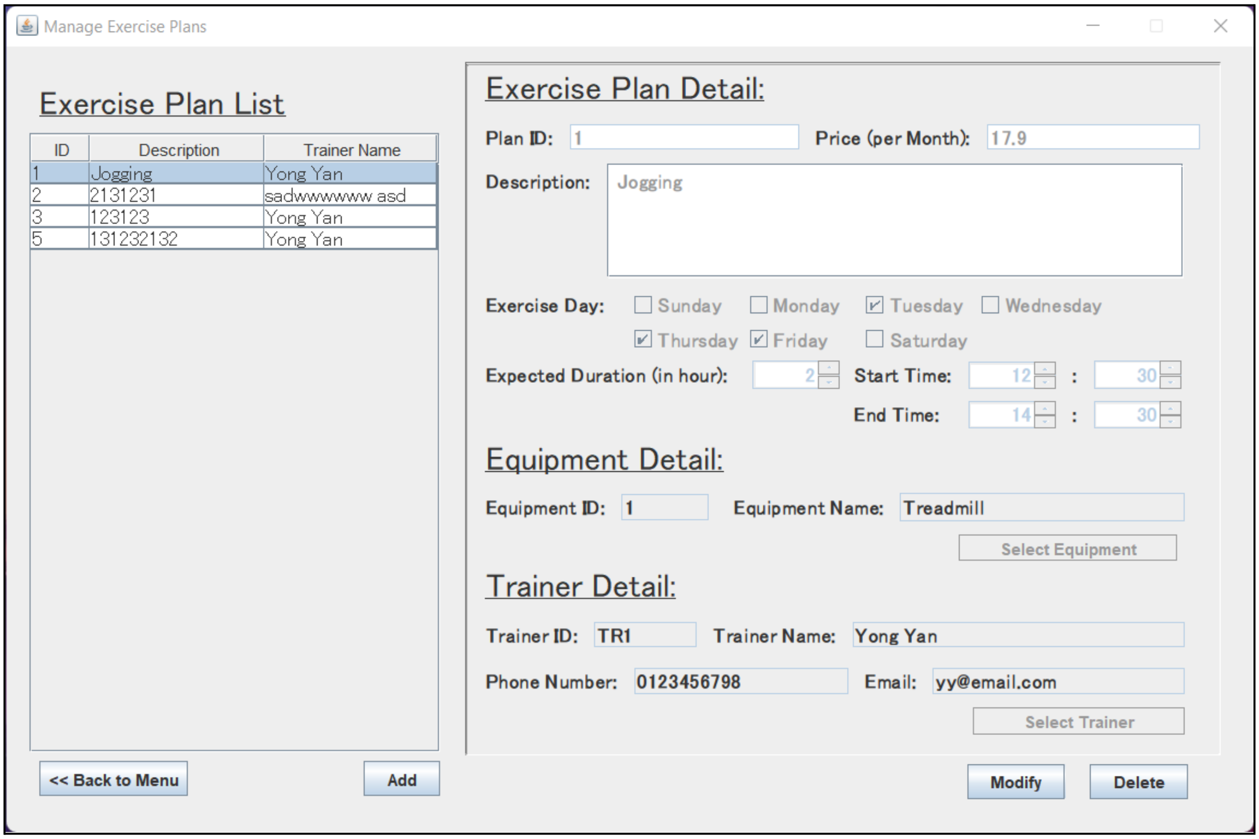
Field	Valid Condition	Example
Equipment ID	Integer and is not used by other equipment except the current modifying equipment	1 / 2 / 3
Equipment Name	Any inputs	Treadmill / Drumbell

Table 14: Sample Outputs for Add or Modifying Equipment Information

No.	Description	Output Screen
1	Click "Update" button and there are no blank inputs or invalid data inputs. Selecting "Yes" will modify the data and "No" will return to change value. (Modifying Equipment Data)	 Manage Equipment Equipment List ID Name 1 Treadmill 4 Drumbell Equipment Detail: Equipment ID: 1 Confirm Are you sure you want to update this equipment?
2	Click "Confirm" button and there are no blank inputs or invalid data inputs. Selecting "Yes" will add the data and "No" will return to change value. (Add Equipment)	 Manage Equipment Equipment List ID Name 1 Treadmill 4 Drumbell Equipment Detail: Equipment ID: 2 Confirm Are you sure you want to add this equipment?
3	Click "Confirm" button and there are blank inputs or invalid data inputs.	 Manage Equipment Equipment List ID Name 1 Treadmill 4 Drumbell Equipment Detail: Message Please enter all fields!

8.11 View and Delete Exercise Plans

To view or delete exercise plans' information, the user must first login as the admin or a staff or a trainer. After the user successfully logged in as the admin or a staff or a trainer, the users can select "Manage Exercise Plans" button in their main menus. To view an exercise plan information, the users can select any exercise plan from the exercise plan list to display the selected exercise plan information as shown in Figure 93 whereas to delete a exercise plan information, the users can click on "Delete" button after selecting an exercise plan from the exercise plan list as shown in Figure 94.



Exercise Plan List

ID	Description	Trainer Name
1	Jogging	Yong Yan
2	2131231	sadwwwwww asd
3	123123	Yong Yan
5	131232132	Yong Yan

Exercise Plan Detail:

Plan ID: 1 Price (per Month): 17.9

Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

Expected Duration (in hour): 2 Start Time: 12 : 30

End Time: 14 : 30

Equipment Detail:

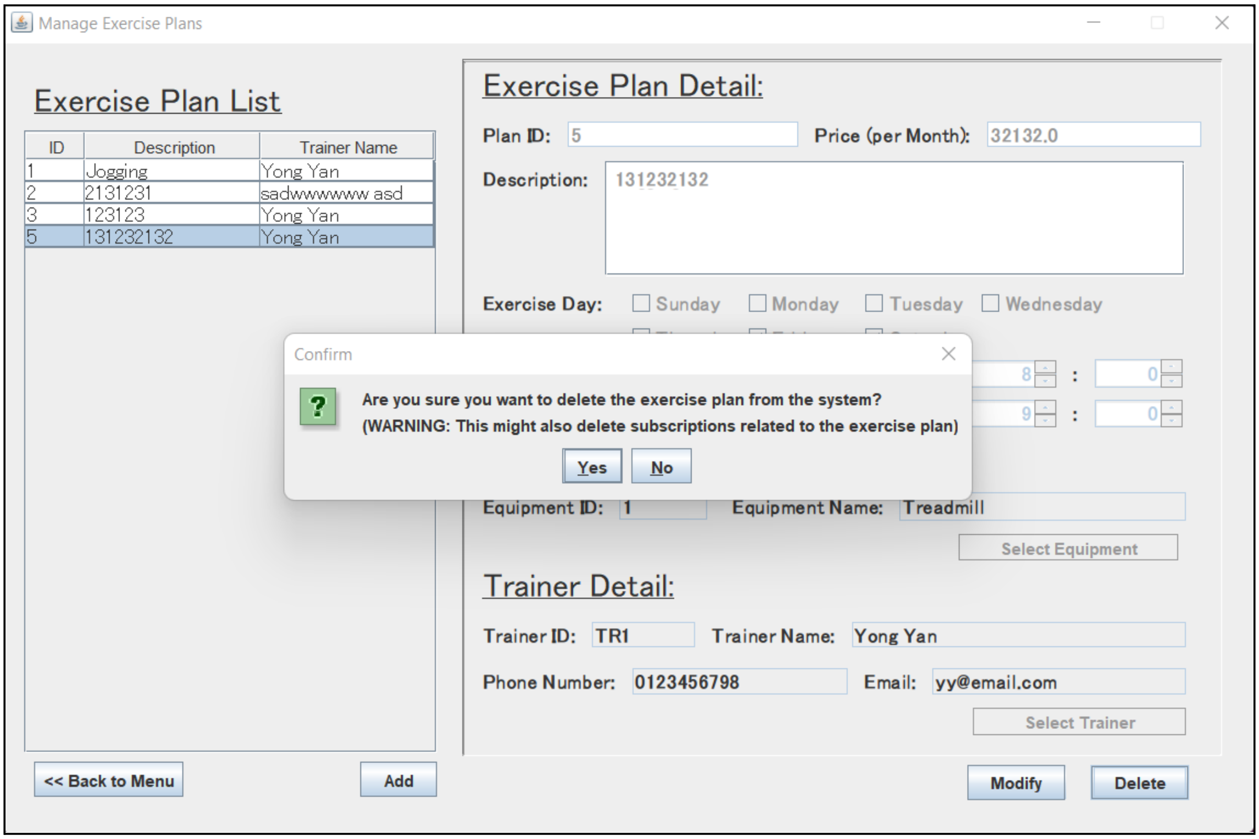
Equipment ID: 1 Equipment Name: Treadmill

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

Figure 93: View Exercise Plan Information GUI



Manage Exercise Plans

Exercise Plan List

ID	Description	Trainer Name
1	Jogging	Yong Yan
2	2131231	sadwwwwww asd
3	123123	Yong Yan
5	131232132	Yong Yan

Exercise Plan Detail:

Plan ID: 5 Price (per Month): 32132.0

Description: 131232132

Exercise Day: □ Sunday □ Monday □ Tuesday □ Wednesday

Confirm

Are you sure you want to delete the exercise plan from the system?
(WARNING: This might also delete subscriptions related to the exercise plan)

Equipment ID: 1 Equipment Name: Treadmill

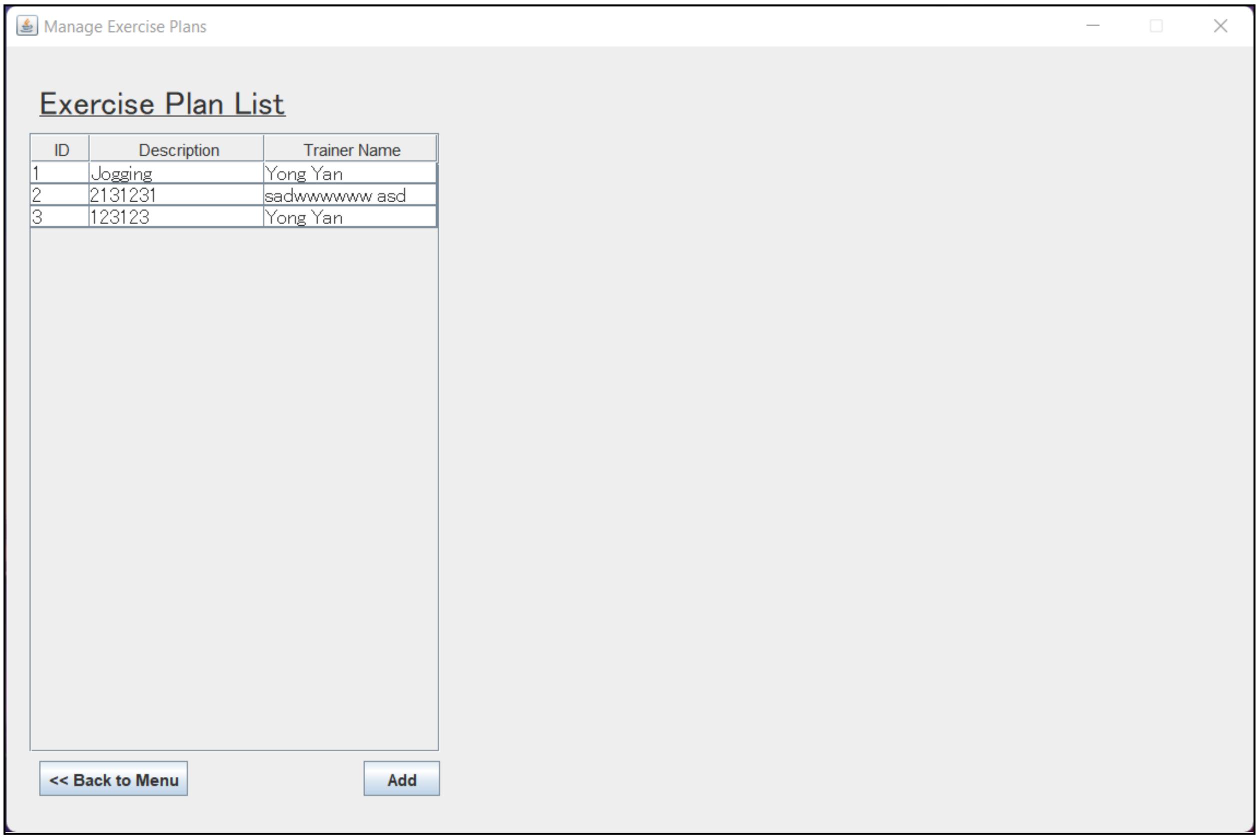
Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

Figure 94: Delete Exercise Plan GUI

There are no input fields required in viewing and deleting the exercise plan. The only input action considered in viewing exercise plan information is selecting an exercise plan from the exercise plan list, whereas the input actions considered in deleting exercise plan are selecting “Delete” button and clicking on “Yes” to delete the selected exercise plan. The example of output of viewing can be shown in Figure 94 above whereas the example of output of deleting an exercise plan is shown in figure below.



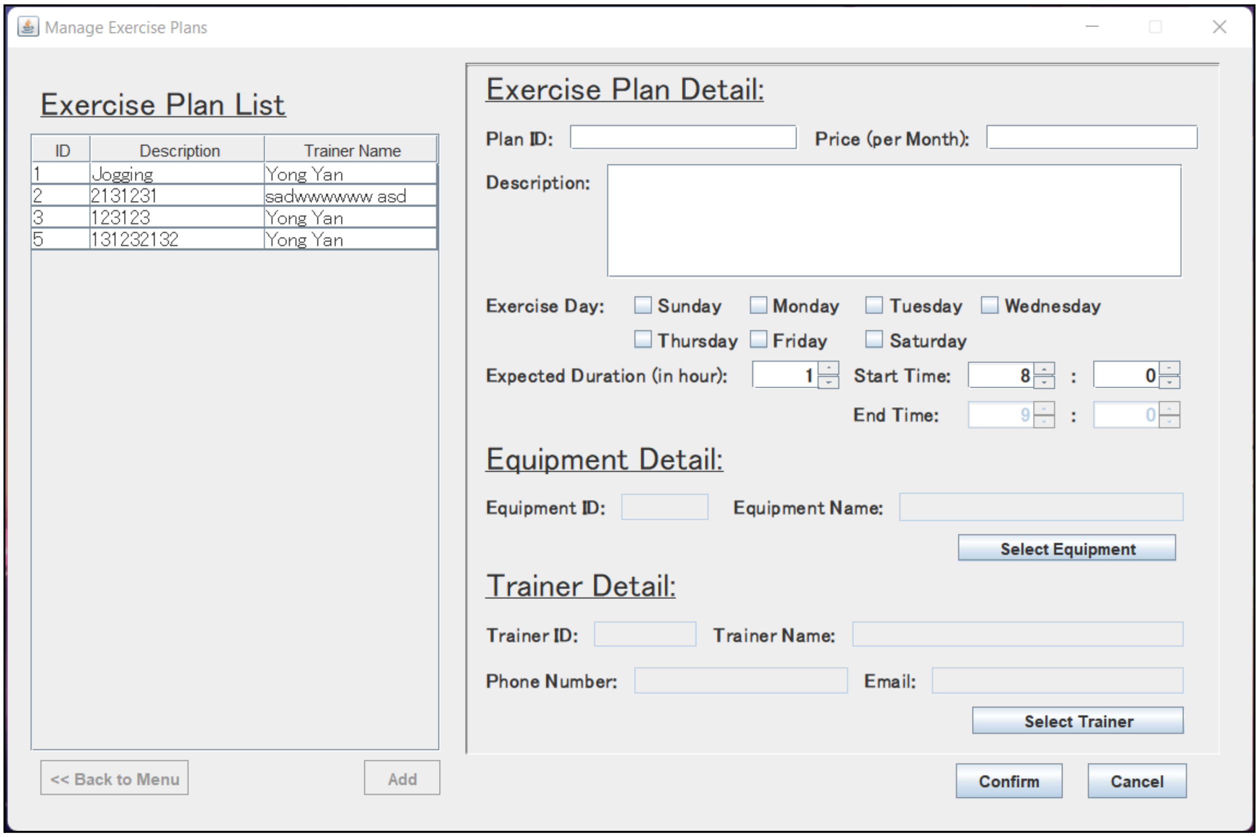
Exercise Plan List

ID	Description	Trainer Name
1	Jogging	Yong Yan
2	2131231	sadwwwwww asd
3	123123	Yong Yan

Figure 95: Exercise Plan List after Deleting a Exercise Plan from the System

8.12 Add and Modify Exercise Plans

To add or modify exercise plans' information, the user must first login as the admin or a staff or a trainer. After the user successfully logged in as the admin or a staff or a trainer, the users can select "Manage Exercise Plans" button in their main menus. To add a new exercise plan, the users can click on "Add" button to display the form shown in Figure 96 and Figure 97 whereas to modify an exercise plan information, the users can select an exercise plan from the exercise plan list and click on "Modify" button as shown in Figure 98 and Figure 99. Table 15 and 16 show the sample inputs and outputs for add or modifying exercise plan information respectively.



Exercise Plan List

ID	Description	Trainer Name
1	Jogging	Yong Yan
2	2131231	sadwwwwww asd
3	123123	Yong Yan
5	131232132	Yong Yan

Exercise Plan Detail:

Plan ID:

Price (per Month):

Description:

Exercise Day: □ Sunday □ Monday □ Tuesday □ Wednesday □ Thursday □ Friday □ Saturday

Expected Duration (in hour): 1

Start Time: 8 : 0

End Time: 9 : 0

Equipment Detail:

Equipment ID:

Equipment Name:

Trainer Detail:

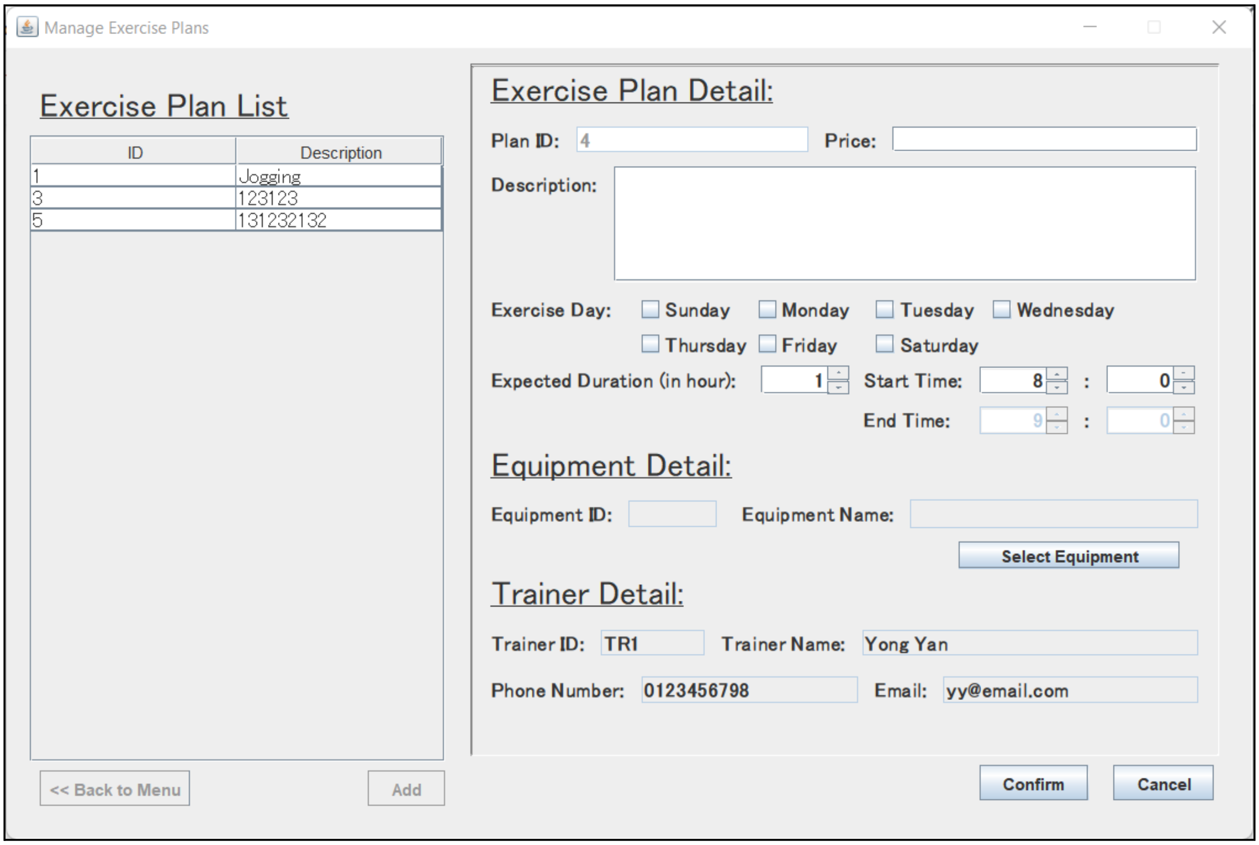
Trainer ID:

Trainer Name:

Phone Number:

Email:

Figure 96: Add Exercise Plan GUI (Admin & Staff)



Exercise Plan List

ID	Description
1	Jogging
3	123123
5	131232132

Exercise Plan Detail:

Plan ID: 4 Price:

Description:

Exercise Day: ☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday
☐ Thursday ☐ Friday ☐ Saturday

Expected Duration (in hour): 1 Start Time: 8 : 0

End Time: 9 : 0

Equipment Detail:

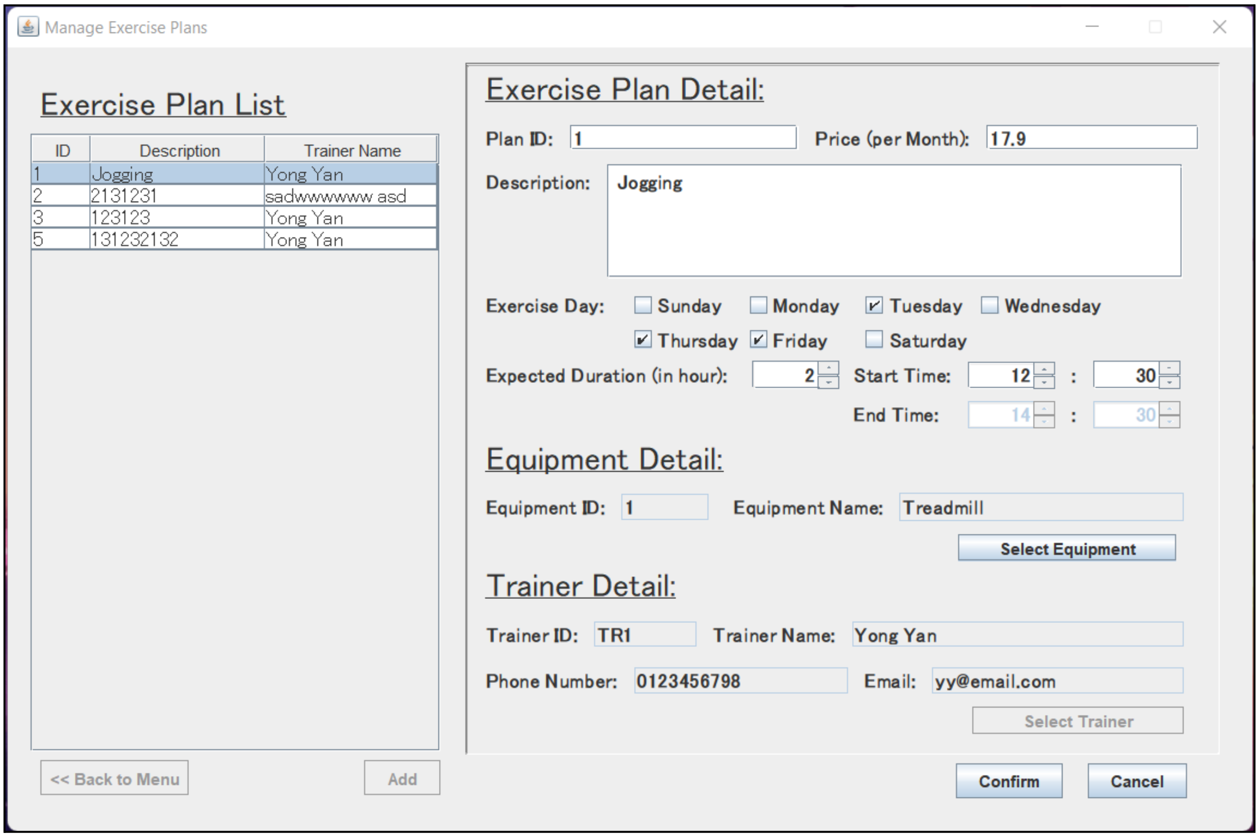
Equipment ID: Equipment Name:

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

Figure 97: Add Exercise Plan GUI (Trainer)



Exercise Plan List

ID	Description	Trainer Name
1	Jogging	Yong Yan
2	2131231	sadwwwwww asd
3	123123	Yong Yan
5	131232132	Yong Yan

Exercise Plan Detail:

Plan ID: 1 Price (per Month): 17.9

Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

Expected Duration (in hour): 2 Start Time: 12 : 30

End Time: 14 : 30

Equipment Detail:

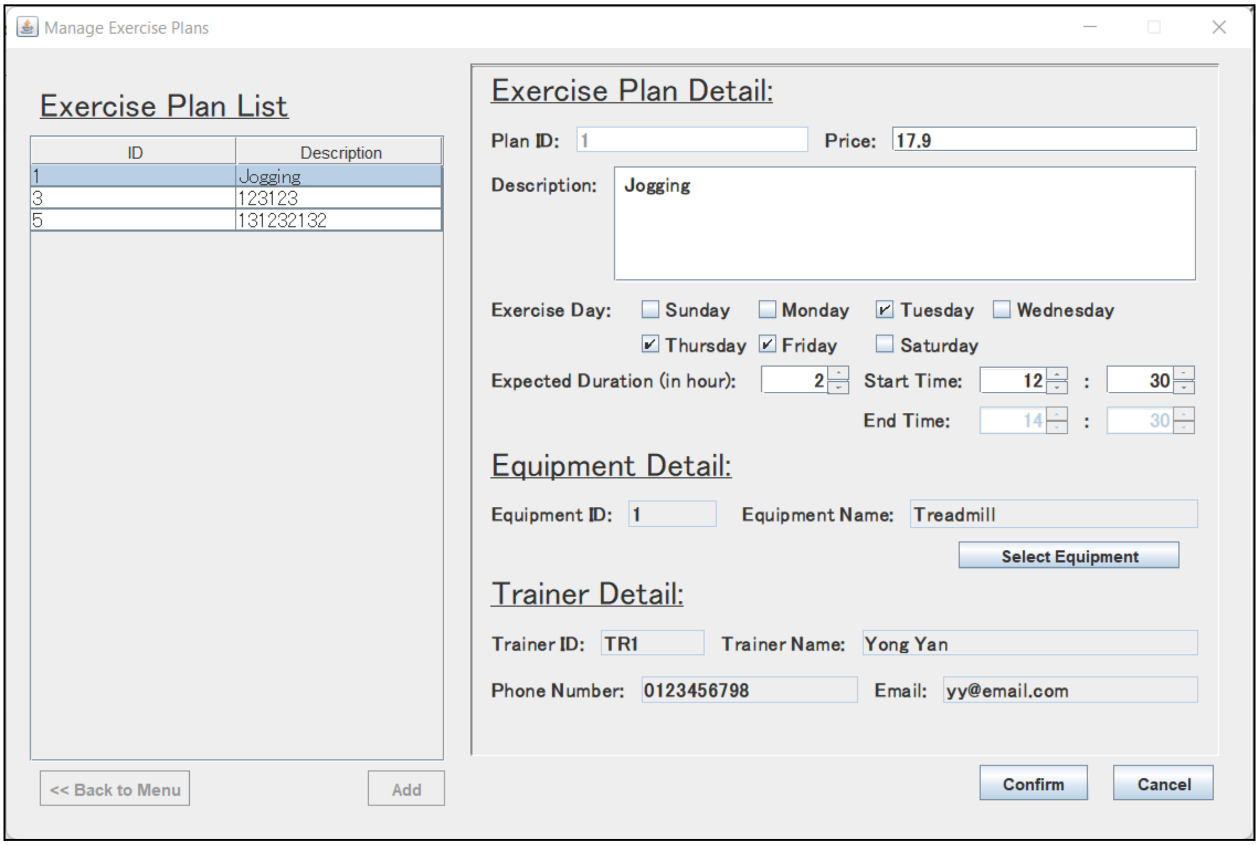
Equipment ID: 1 Equipment Name: Treadmill

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

Figure 98: Modify Exercise Plan GUI (Admin & Staff)



ID	Description
1	Jogging
3	123123
5	131232132

Plan ID: 1

Price: 17.9

Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

Expected Duration (in hour): 2

Start Time: 12 : 30

End Time: 14 : 30

Equipment ID: 1

Equipment Name: Treadmill

Trainer ID: TR1

Trainer Name: Yong Yan

Phone Number: 0123456798

Email: yy@email.com

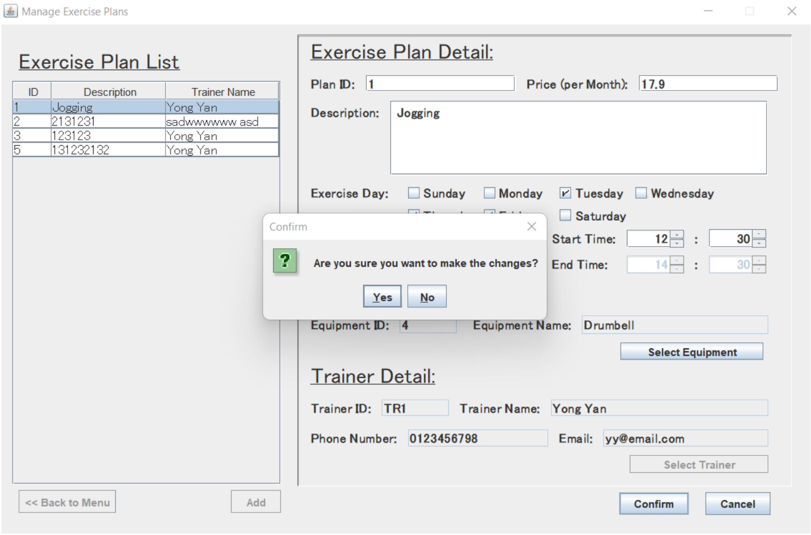
Figure 99: Modify Exercise Plan GUI (Trainer)

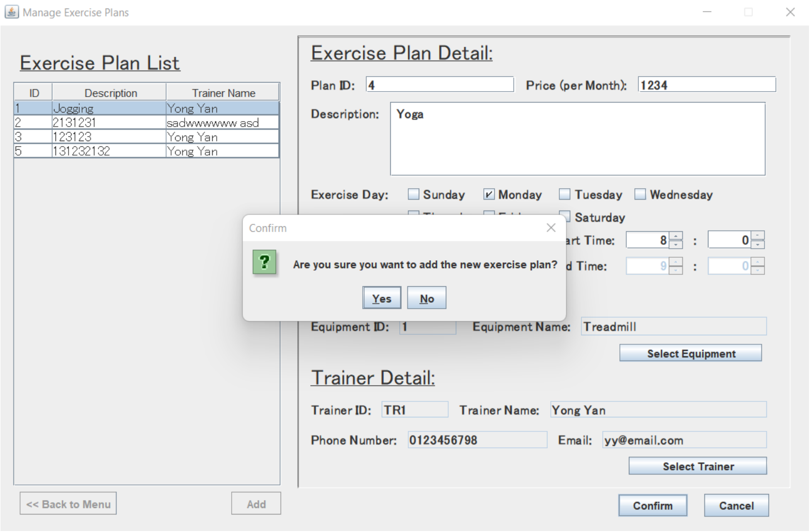
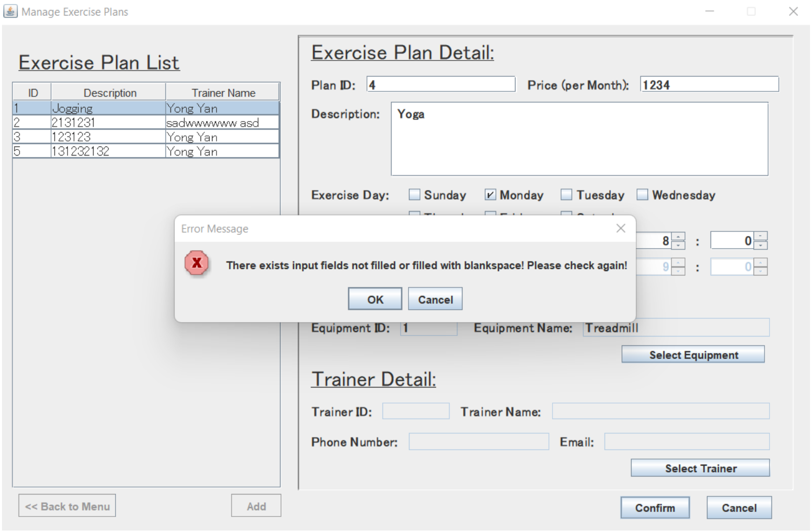
Table 15: Sample Inputs for Add or Modifying Exercise Plan Information

Field	Valid Condition	Example
Plan ID	Integer and is not used by other exercise plan except the current modifying exercise plan (Staff & Admin) / Auto-input (Trainer)	1 / 2 / 3
Price (per Month)	Numbers and can have decimal	17.9 / 200 / 45.5
Description	Any inputs	Jogging / Yoga
Exercise Day	At least one day is checked	Sunday / Monday / Tuesday/ Wednesday / Thursday / Friday / Saturday
Expected Duration (in hour)	Integer and only 1 to 3 is acceptable	1 / 2 / 3
Start Time	Integer and only 8 to 20 is acceptable	8 / 9 / 10 / 18 / 19 / 20

(hour section)		
Start Time (minute section)	Integer and only 0 to 59 is acceptable	0 / 5 / 10 / 50 / 55 / 59
Equipment Section	Select an equipment after clicking "Select Equipment" button	Information of the selected equipment
Trainer Section	Select a trainer after clicking "Select Trainer" button (Staff & Admin) / Logged in trainer (Trainer)	Information of the selected trainer (Staff & Admin) / Information of the logged in trainer (Trainer)

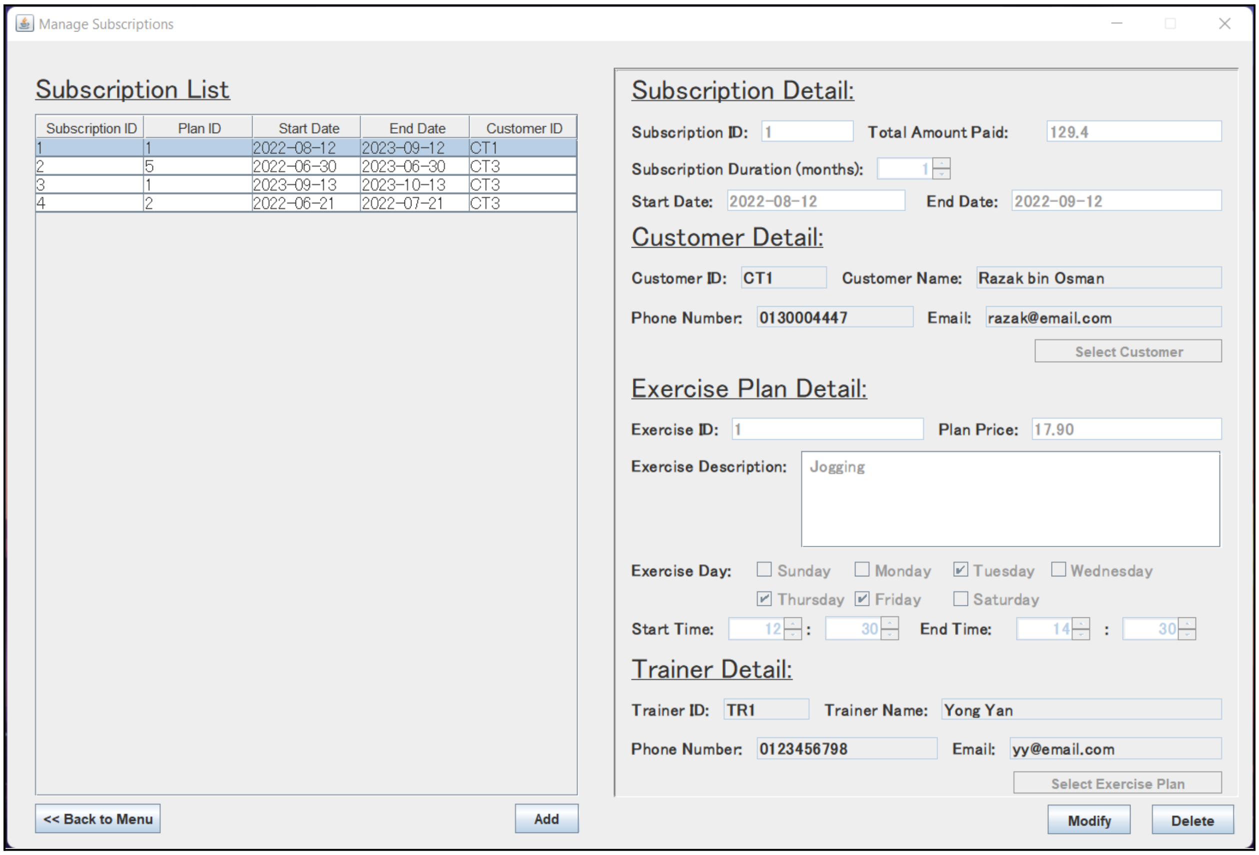
Table 16: Sample Outputs for Add or Modifying Exercise Plan Information

No.	Description	Output Screen
1	Click "Confirm" button and there are no blank inputs or invalid data inputs. Selecting "Yes" will modify the data and "No" will return to change value. (Modifying Exercise Plan Data)	 Manage Exercise Plans Exercise Plan List ID | Description | Trainer Name 1 | Jogging | Yong Yan 2 | 2131231 | sadwwwwww asd 3 | 123123 | Yong Yan 5 | 131232132 | Yong Yan Exercise Plan Detail: Plan ID: 1 Price (per Month): 17.9 Description: Jogging Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday □ Saturday Start Time: 12 : 30 End Time: 14 : 30 Confirm Are you sure you want to make the changes? Equipment ID: 4 Equipment Name: Drumbell Trainer Detail: Trainer ID: TR1 Trainer Name: Yong Yan Phone Number: 0123456798 Email: yy@email.com Yes No Select Equipment Select Trainer << Back to Menu Add Confirm Cancel

2	Click “Confirm” button and there are no blank inputs or invalid data inputs. Selecting “Yes” will add the data and “No” will return to change value. (Add Exercise Plan)	 Manage Exercise Plans Exercise Plan List ID | Description | Trainer Name 1 | Jogging | Yong Yan 2 | 2131231 | sadwwwwww asd 3 | 123123 | Yong Yan 5 | 131232132 | Yong Yan Exercise Plan Detail: Plan ID: 4 Price (per Month): 1234 Description: Yoga Exercise Day: □ Sunday ☑ Monday □ Tuesday □ Wednesday □ Saturday art Time: 8 : 0 d Time: 9 : 0 Equipment ID: 1 Equipment Name: Treadmill Trainer Detail: Trainer ID: TR1 Trainer Name: Yong Yan Phone Number: 0123456798 Email: yy@email.com Confirm Are you sure you want to add the new exercise plan? Yes No
3	Click “Confirm” button and there are blank inputs or invalid data inputs.	 Manage Exercise Plans Exercise Plan List ID | Description | Trainer Name 1 | Jogging | Yong Yan 2 | 2131231 | sadwwwwww asd 3 | 123123 | Yong Yan 5 | 131232132 | Yong Yan Exercise Plan Detail: Plan ID: 4 Price (per Month): 1234 Description: Yoga Exercise Day: □ Sunday ☑ Monday □ Tuesday □ Wednesday 8 : 0 9 : 0 Equipment ID: 1 Equipment Name: Treadmill Trainer Detail: Trainer ID: Trainer Name: Phone Number: Email: Error Message There exists input fields not filled or filled with blankspace! Please check again! OK Cancel

8.13 View and Delete Subscriptions

To view or delete subscriptions’ information, the user must first login as the admin or a staff. After the user successfully logged in as the admin or a staff, the users can select “Manage Subscriptions” button in their main menus. To view a subscription information, the users can select any subscription from the subscription list to display the selected subscription information as shown in Figure 100 whereas to delete a subscription information, the users can click on “Delete” button after selecting a subscription from the subscription list as shown in Figure 101.



Manage Subscriptions

Subscription List

Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3
4	2	2022-06-21	2022-07-21	CT3

Subscription Detail:

Subscription ID: 1 Total Amount Paid: 129.4

Subscription Duration (months): 1

Start Date: 2022-08-12 End Date: 2022-09-12

Customer Detail:

Customer ID: CT1 Customer Name: Razak bin Osman

Phone Number: 0130004447 Email: razak@email.com

Exercise Plan Detail:

Exercise ID: 1 Plan Price: 17.90

Exercise Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

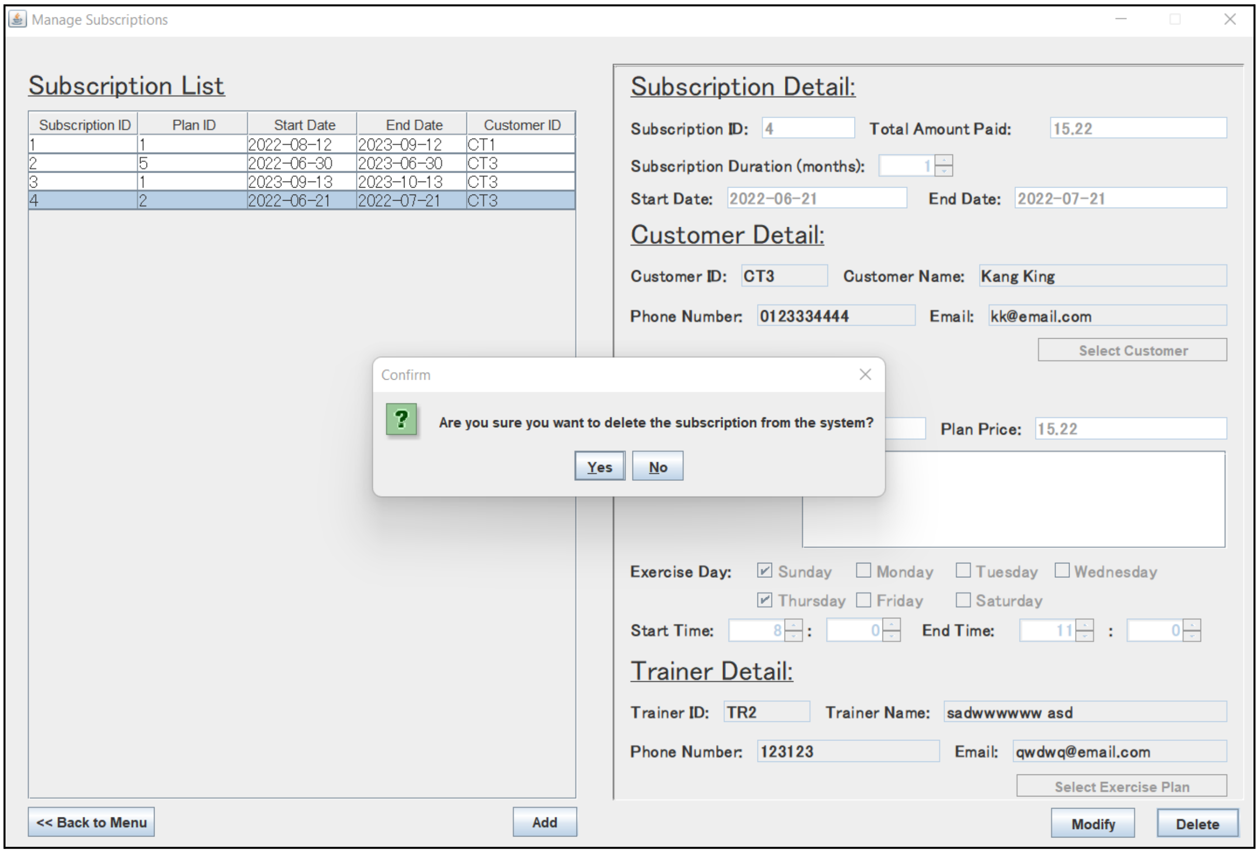
Start Time: 12 : 30 End Time: 14 : 30

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

Figure 100: View Subscription Information GUI


Manage Subscriptions

Subscription List

Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3
4	2	2022-06-21	2022-07-21	CT3

Subscription Detail:

Subscription ID: 4 Total Amount Paid: 15.22

Subscription Duration (months): 1

Start Date: 2022-06-21 End Date: 2022-07-21

Customer Detail:

Customer ID: CT3 Customer Name: Kang King

Phone Number: 0123334444 Email: kk@email.com

Plan Price: 15.22

Exercise Day: ☑ Sunday □ Monday □ Tuesday □ Wednesday ☑ Thursday □ Friday □ Saturday

Start Time: 8 : 0 End Time: 11 : 0

Trainer Detail:

Trainer ID: TR2 Trainer Name: sadwwwwww asd

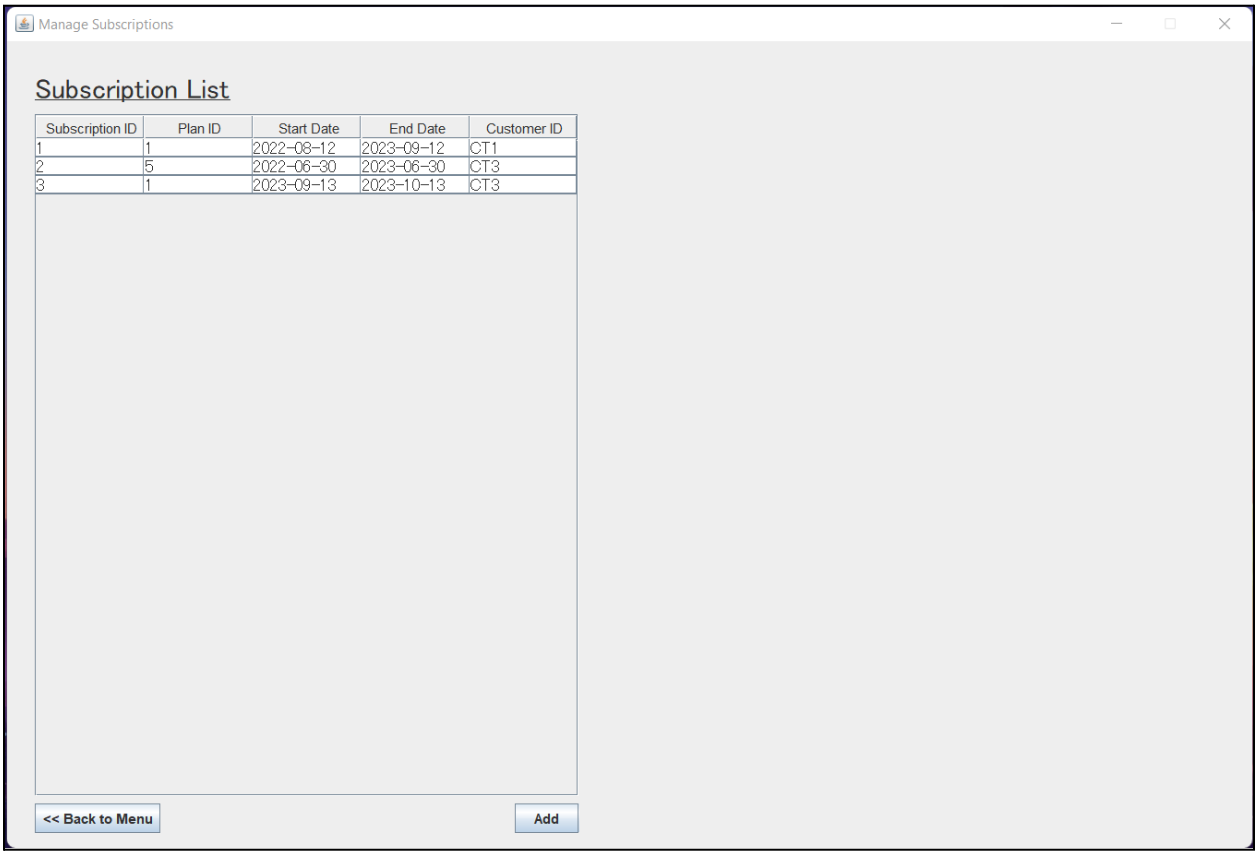
Phone Number: 123123 Email: qwdwq@email.com

Confirm

Are you sure you want to delete the subscription from the system?

Figure 101: Delete Subscription GUI

There are no input fields required in viewing and deleting the subscription. The only input action considered in viewing subscription information is selecting a subscription from the subscription list, whereas the input actions considered in deleting subscription are selecting "Delete" button and clicking on "Yes" to delete the selected subscription. The example of output of viewing can be shown in Figure 101 above whereas the example of output of deleting a subscription is shown in figure below.



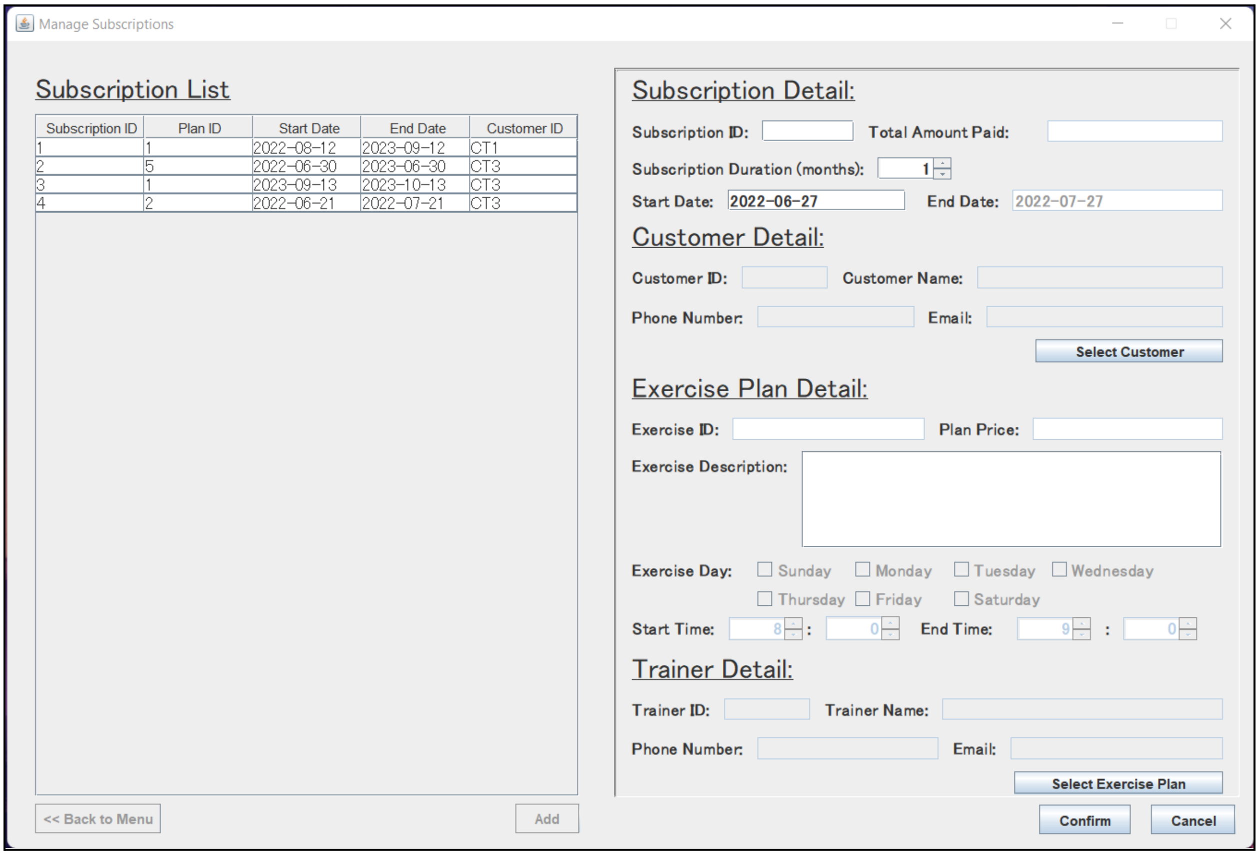
Subscription List

Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3

Figure 102: Subscription List after Deleting a Subscription from the System

8.14 Add and Modify Subscriptions

To add or modify subscriptions' information, the user must first login as the admin or a staff. After the user successfully logged in as the admin or a staff, the users can select "Manage Subscriptions" button in their main menus. To add a new subscription, the users can click on "Add" button to display the form shown in Figure 103 whereas to modify a subscription information, the users can select a subscription from the subscription list and click on "Modify" button as shown in Figure 104. Table 17 and 18 show the sample inputs and outputs for add or modifying subscription information respectively.



Subscription List

Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3
4	2	2022-06-21	2022-07-21	CT3

Subscription Detail:

Subscription ID: Total Amount Paid:

Subscription Duration (months): 1

Start Date: 2022-06-27 End Date: 2022-07-27

Customer Detail:

Customer ID: Customer Name:

Phone Number: Email:

Exercise Plan Detail:

Exercise ID: Plan Price:

Exercise Description:

Exercise Day: ☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday

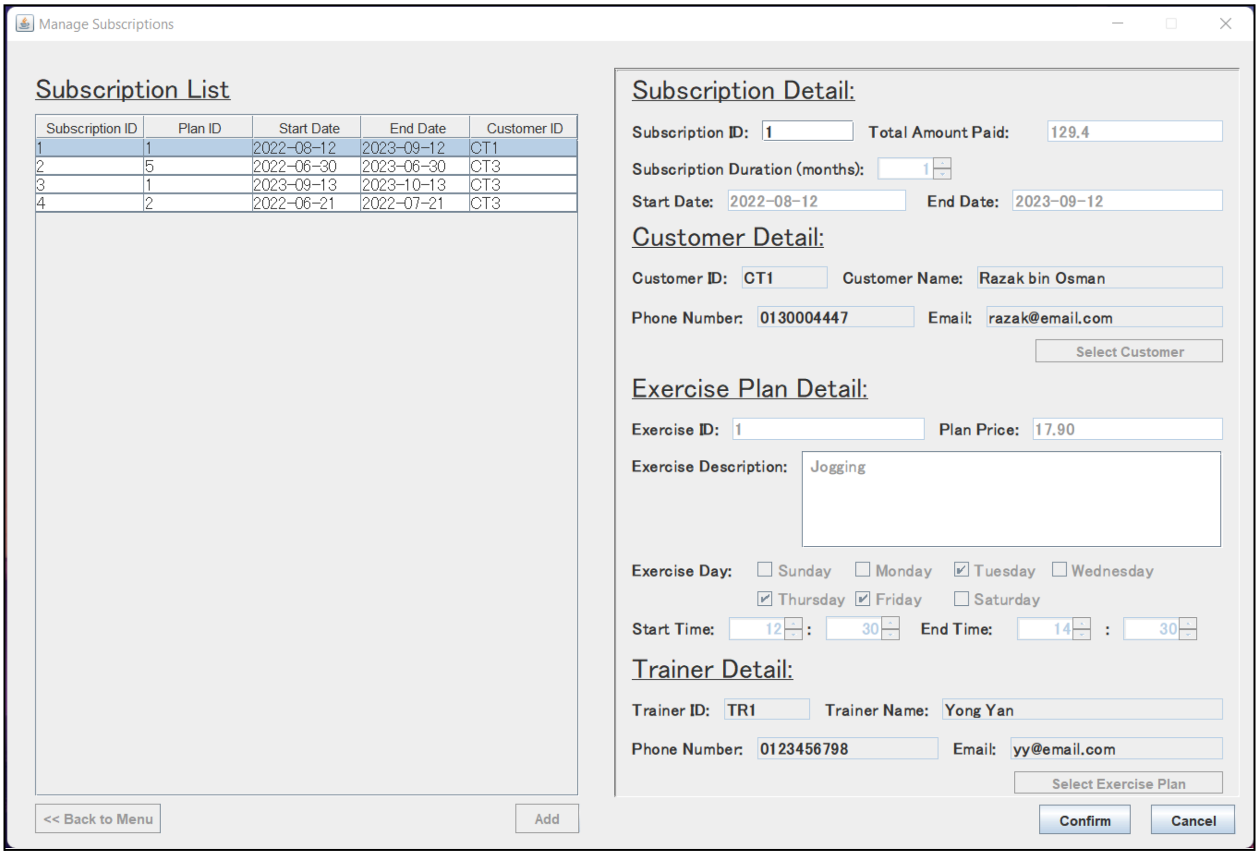
Start Time: 8 : 0 End Time: 9 : 0

Trainer Detail:

Trainer ID: Trainer Name:

Phone Number: Email:

Figure 103: Add Subscription GUI



Subscription List

Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3
4	2	2022-06-21	2022-07-21	CT3

Subscription Detail:

Subscription ID: 1 Total Amount Paid: 129.4

Subscription Duration (months): 1

Start Date: 2022-08-12 End Date: 2023-09-12

Customer Detail:

Customer ID: CT1 Customer Name: Razak bin Osman

Phone Number: 0130004447 Email: razak@email.com

Exercise Plan Detail:

Exercise ID: 1 Plan Price: 17.90

Exercise Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

Start Time: 12 : 30 End Time: 14 : 30

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

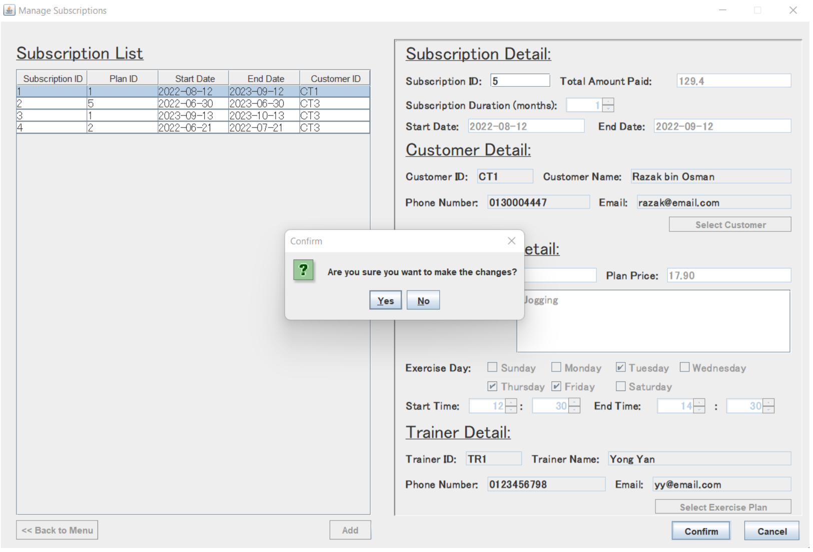
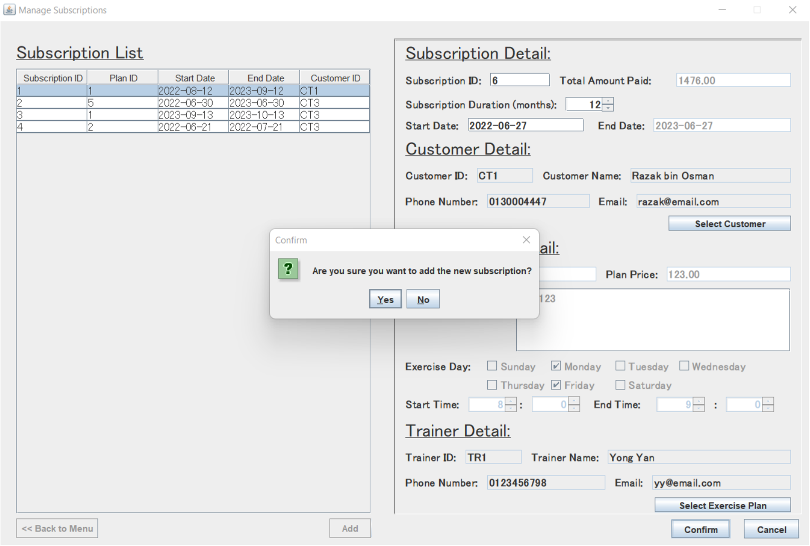
Phone Number: 0123456798 Email: yy@email.com

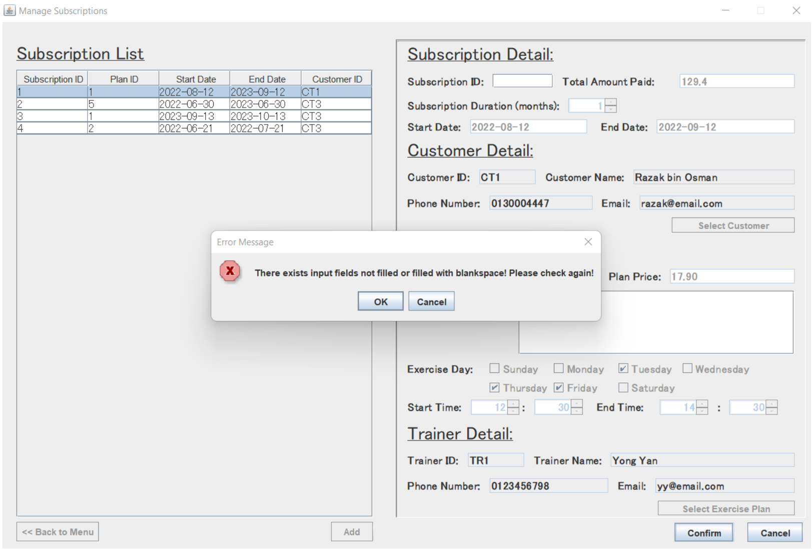
Figure 104: Modify Subscription GUI

Table 17: Sample Inputs for Add or Modifying Subscription Information

Field	Valid Condition	Example
Subscription ID	Integer and is not used by other subscription except the current modifying subscription	1 / 2 / 3
Subscription Duration (months)	Integer and only 1 to 12 is acceptable	1 / 2 / 3 / 10 / 11 / 12
Start Date	Date format in YYYY-MM-DD and the date should be same or after the current system date	2022-08-27 / 2023-09-01
Customer Section	Select a customer after clicking “Select Customer” button	Information of the selected customer
Exercise Plan and Trainer Section	Select an exercise plan after clicking “Select Exercise Plan” button	Information of the selected exercise plan and its trainer

Table 18: Sample Outputs for Add or Modifying Subscription Information

No.	Description	Output Screen
1	Click “Confirm” button and there are no blank inputs or invalid data inputs. Selecting “Yes” will modify the data and “No” will return to change value. (Modifying Subscription Data)	 Manage Subscriptions Subscription List Subscription ID Plan ID Start Date End Date Customer ID 1 1 2022-08-12 2023-09-12 CT1 2 5 2022-06-30 2023-06-30 CT3 3 1 2023-09-13 2023-10-13 CT3 4 2 2022-06-21 2022-07-21 CT3 Subscription Detail: Subscription ID: 5 Total Amount Paid: 129.4 Subscription Duration (months): 1 Start Date: 2022-08-12 End Date: 2022-09-12 Customer Detail: Customer ID: CT1 Customer Name: Razak bin Osman Phone Number: 0130004447 Email: razak@email.com etail: Plan Price: 17.90 Jogging Exercise Day: ☐ Sunday ☐ Monday ☑ Tuesday ☐ Wednesday ☑ Thursday ☑ Friday ☐ Saturday Start Time: 12 : 30 End Time: 14 : 30 Trainer Detail: Trainer ID: TR1 Trainer Name: Yong Yan Phone Number: 0123456798 Email: yy@email.com Confirm Are you sure you want to make the changes? Select Customer Select Exercise Plan Yes No << Back to Menu Add Confirm Cancel
2	Click “Confirm” button and there are no blank inputs or invalid data inputs. Selecting “Yes” will add the data and “No” will return to change value. (Add Subscription)	 Manage Subscriptions Subscription List Subscription ID Plan ID Start Date End Date Customer ID 1 1 2022-08-12 2023-09-12 CT1 2 5 2022-06-30 2023-06-30 CT3 3 1 2023-09-13 2023-10-13 CT3 4 2 2022-06-21 2022-07-21 CT3 Subscription Detail: Subscription ID: 6 Total Amount Paid: 1476.00 Subscription Duration (months): 12 Start Date: 2022-06-27 End Date: 2023-06-27 Customer Detail: Customer ID: CT1 Customer Name: Razak bin Osman Phone Number: 0130004447 Email: razak@email.com ail: Plan Price: 123.00 123 Exercise Day: ☐ Sunday ☑ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☑ Friday ☐ Saturday Start Time: 8 : 0 End Time: 9 : 0 Trainer Detail: Trainer ID: TR1 Trainer Name: Yong Yan Phone Number: 0123456798 Email: yy@email.com Confirm Are you sure you want to add the new subscription? Select Customer Select Exercise Plan Yes No << Back to Menu Add Confirm Cancel

3	Click "Confirm" button and there are blank inputs or invalid data inputs.	

Manage Subscriptions

Subscription List

Subscription ID	Plan ID	Start Date	End Date	Customer ID
1	1	2022-08-12	2023-09-12	CT1
2	5	2022-06-30	2023-06-30	CT3
3	1	2023-09-13	2023-10-13	CT3
4	2	2022-06-21	2022-07-21	CT3

Subscription Detail:

Subscription ID: Total Amount Paid: 129.4

Subscription Duration (months): 1

Start Date: 2022-08-12 End Date: 2022-09-12

Customer Detail:

Customer ID: CT1 Customer Name: Razak bin Osman

Phone Number: 0130004447 Email: razak@email.com

Plan Price: 17.90

Exercise Day: ☐ Sunday ☐ Monday ☑ Tuesday ☐ Wednesday ☑ Thursday ☑ Friday ☐ Saturday

Start Time: 12 : 30 End Time: 14 : 30

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

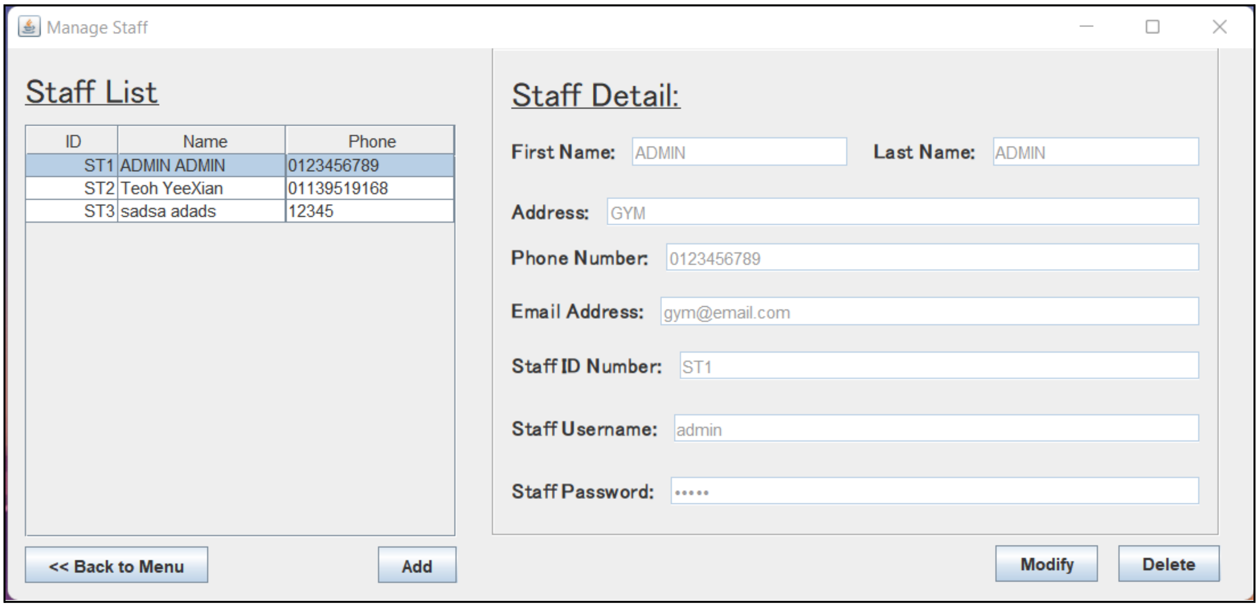
Phone Number: 0123456798 Email: yy@email.com

Error Message

There exists input fields not filled or filled with blankspace! Please check again!

8.15 View and Delete Staff

To view or delete staff's information, the user must first login as the admin. After the user successfully logged in as the admin, the users can select "Manage Staff Detail" button in their main menu. To view a staff information, the users can select any staff from the staff list to display the selected staff information as shown in Figure 105 whereas to delete a staff information, the users can click on "Delete" button after selecting a staff from the staff list as shown in Figure 106.



Staff List

ID	Name	Phone
ST1	ADMIN ADMIN	0123456789
ST2	Teoh YeeXian	01139519168
ST3	sadsa adads	12345

Staff Detail:

First Name: ADMIN Last Name: ADMIN

Address: GYM

Phone Number: 0123456789

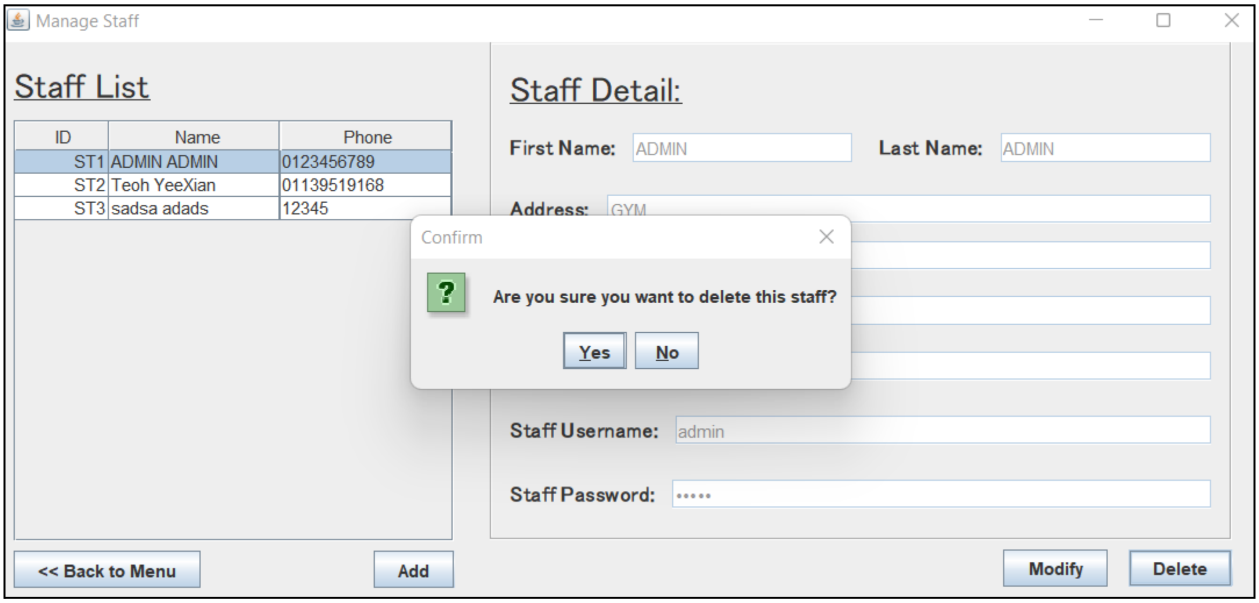
Email Address: gym@email.com

Staff ID Number: ST1

Staff Username: admin

Staff Password: •••••

Figure 105: View Staff Information GUI



Staff List

ID	Name	Phone
ST1	ADMIN ADMIN	0123456789
ST2	Teoh YeeXian	01139519168
ST3	sadsa adads	12345

Staff Detail:

First Name: ADMIN Last Name: ADMIN

Address: GYM

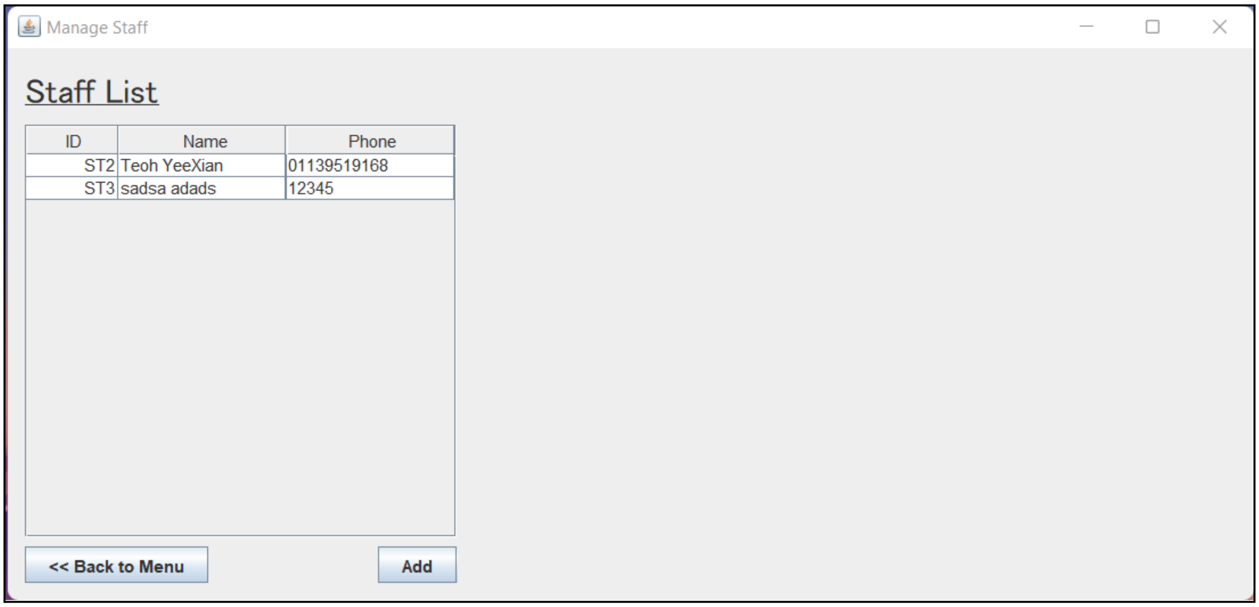
Are you sure you want to delete this staff?

Staff Username: admin

Staff Password: •••••

Figure 106: Delete Staff GUI

There are no input fields required in viewing and deleting the staff. The only input action considered in viewing staff information is selecting a staff from the staff list, whereas the input actions considered in deleting staff are selecting “Delete” button and clicking on “Yes” to delete the selected staff. The example of output of viewing can be shown in Figure 106 above whereas the example of output of deleting a staff is shown in figure below.



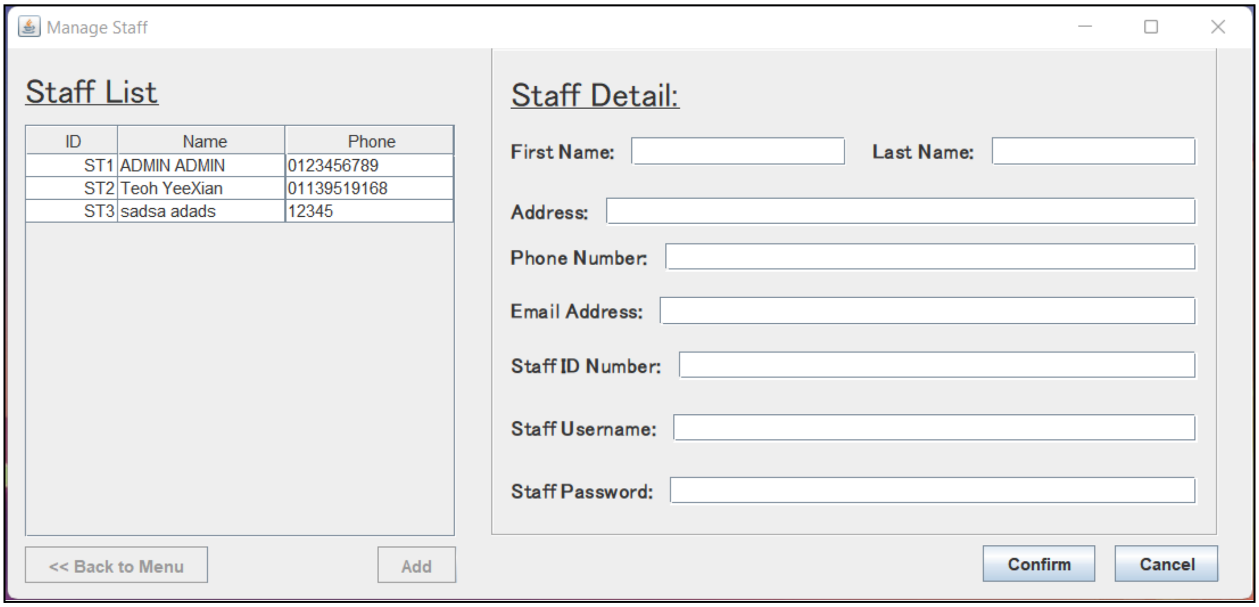
Staff List

ID	Name	Phone
ST2	Teoh YeeXian	01139519168
ST3	sadsa adads	12345

Figure 107: Staff List after Deleting a Staff from the System

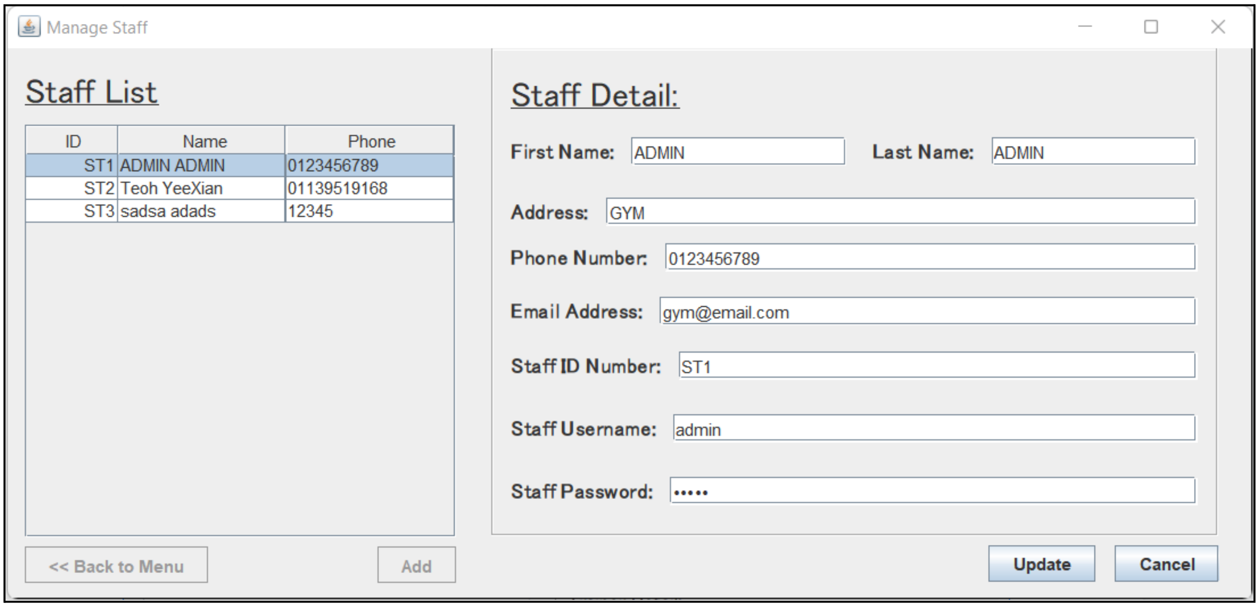
8.16 Add and Modify Staff

To add or modify staff's information, the user must first login as the admin. After the user successfully logged in as the admin, the users can select "Manage Staff Detail" button in their main menus. To add a new staff, the users can click on "Add" button to display the form shown in Figure 108 whereas to modify a staff information, the users can select a staff from the staff list and click on "Modify" button as shown in Figure 109. Table 19 and 20 show the sample inputs and outputs for add or modifying staff information respectively.



ID	Name	Phone
ST1	ADMIN ADMIN	0123456789
ST2	Teoh YeeXian	01139519168
ST3	sadsa adads	12345

Figure 108: Add Staff GUI



ID	Name	Phone
ST1	ADMIN ADMIN	0123456789
ST2	Teoh YeeXian	01139519168
ST3	sadsa adads	12345

First Name: ADMIN Last Name: ADMIN

Address: GYM

Phone Number: 0123456789

Email Address: gym@email.com

Staff ID Number: ST1

Staff Username: admin

Staff Password: •••••

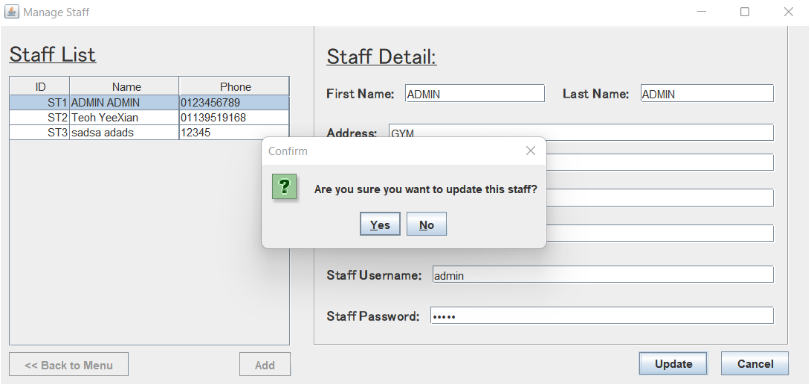
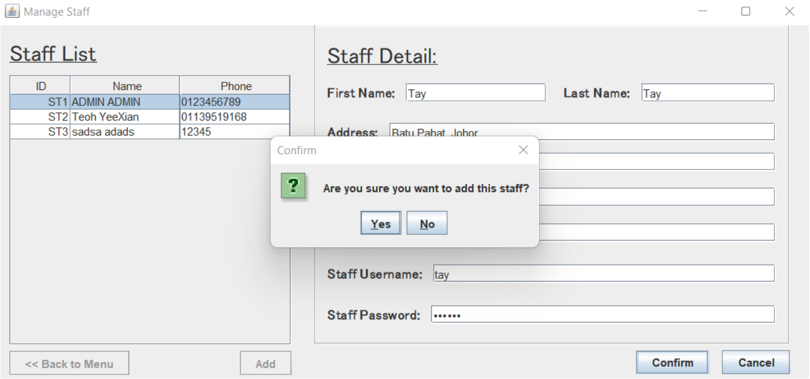
Figure 109: Modify Staff GUI

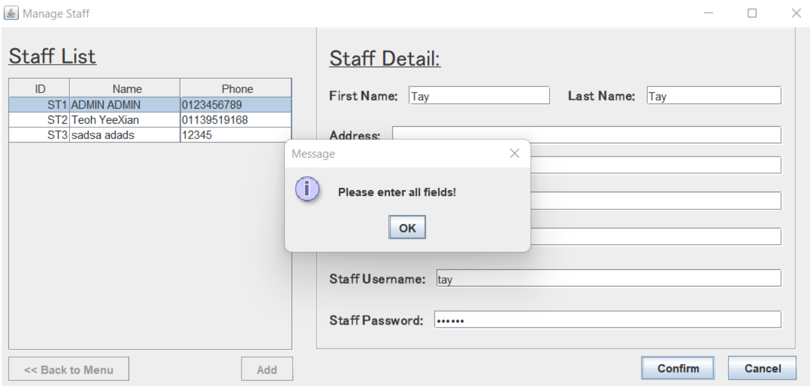
Table 19: Sample Inputs for Add or Modifying Staff Information

Field	Valid Condition	Example
First Name	Any inputs	Yong / Abdullah / Aisyah
Last Name	Any inputs	Yan / binti Musa / Hafiz

Address	Any inputs	Johor Bahru, Johor
Phone Number	Any inputs	0123456789 / 01110339282
Email Address	Any inputs	yy@email.com / aa@email.com
Staff ID Number	Integer and is not used by other staff except the current modifying staff	1 / 2 / 3
Staff Username	Any inputs and is not used by other staff except the current modifying staff	yy / aa123 / aisyah3
Staff Password	Any inputs	222123 / yy / lap

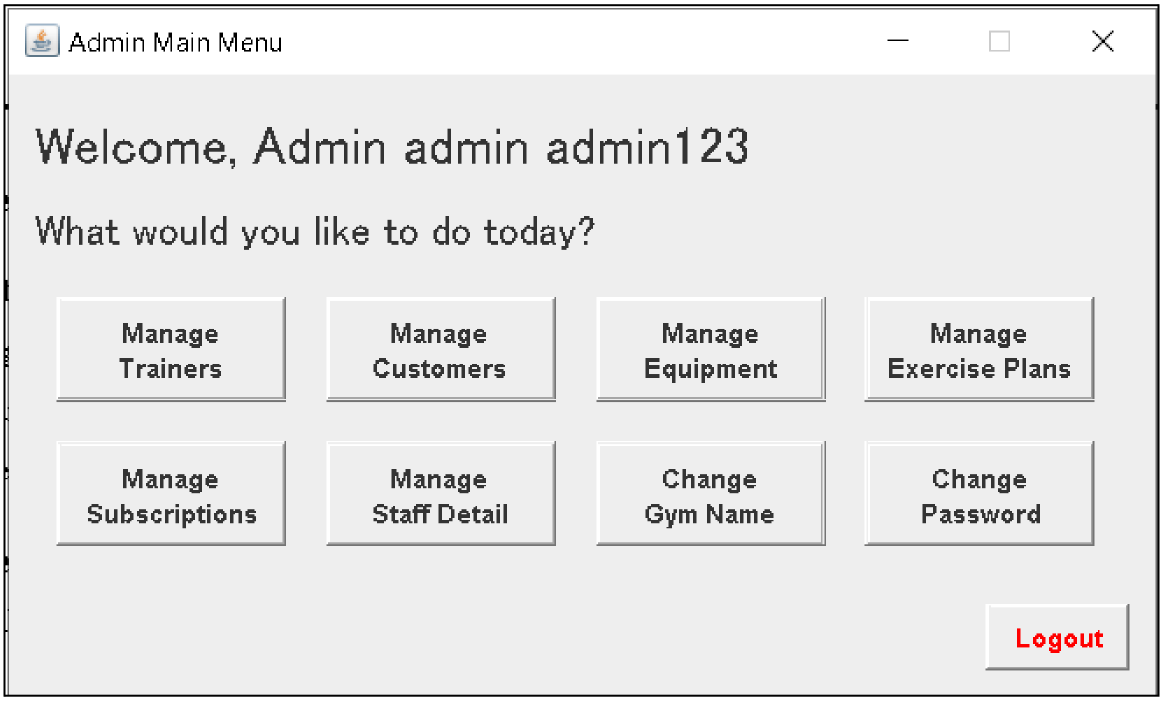
Table 20: Sample Outputs for Add or Modifying Staff Information

No.	Description	Output Screen
1	Click “Update” button and there are no blank inputs or invalid data inputs. Selecting “Yes” will modify the data and “No” will return to change value. (Modifying Staff Data)	 Manage Staff Staff List ID | Name | Phone ST1 | ADMIN ADMIN | 0123456789 ST2 | Teoh YeeXian | 01139519168 ST3 | sadsa adads | 12345 Staff Detail: First Name: ADMIN Last Name: ADMIN Address: GYM Staff Username: admin Staff Password: ••••• Confirm Are you sure you want to update this staff?
2	Click “Confirm” button and there are no blank inputs or invalid data inputs. Selecting “Yes” will add the data and “No” will return to change value. (Add Staff)	 Manage Staff Staff List ID | Name | Phone ST1 | ADMIN ADMIN | 0123456789 ST2 | Teoh YeeXian | 01139519168 ST3 | sadsa adads | 12345 Staff Detail: First Name: Tay Last Name: Tay Address: Batu Pahat, Johor Staff Username: tay Staff Password: •••••• Confirm Are you sure you want to add this staff?

3	Click “Confirm” button and there are blank inputs or invalid data inputs.	 Staff List ID | Name | Phone ST1 | ADMIN ADMIN | 0123456789 ST2 | Teoh YeeXian | 01139519168 ST3 | sadsa adads | 12345 Staff Detail: First Name: Tay Last Name: Tay Address: Message Please enter all fields! OK Staff Username: tay Staff Password: ••••••

8.17 Change Gym’s Name

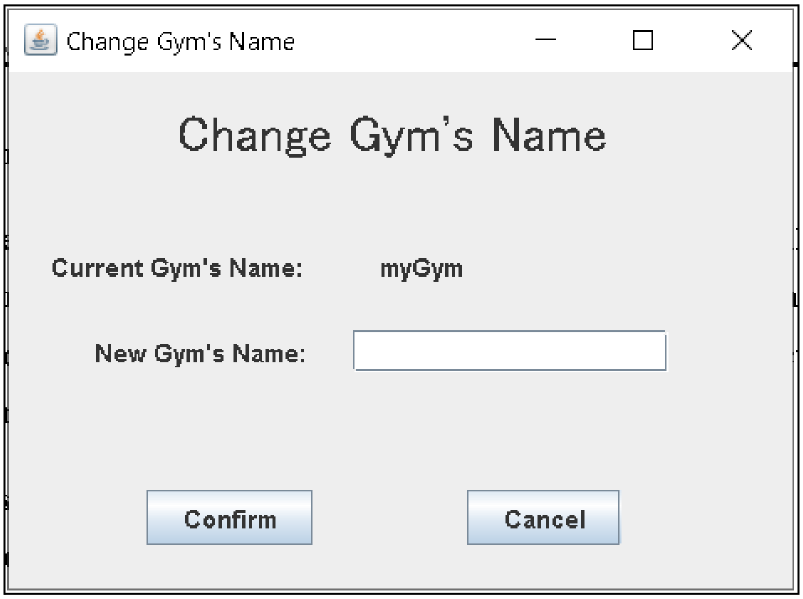
The button to change gym’s name is only accessible by admin, which means that only admin is allowed to change gym’s name. The admin can get into this page by selecting “Change Gym Name” button in the main menu of admin page as shown in Figure . After selecting it, a panel with current gym name is displayed, and admin is able to name a new on as shown in Figure . Table 21 and 22 shows the sample inputs and outputs of the Change Gym’s Name GUI.



Welcome, Admin admin admin123

What would you like to do today?

Figure 110: Admin Main Menu GUI



Current Gym's Name: myGym

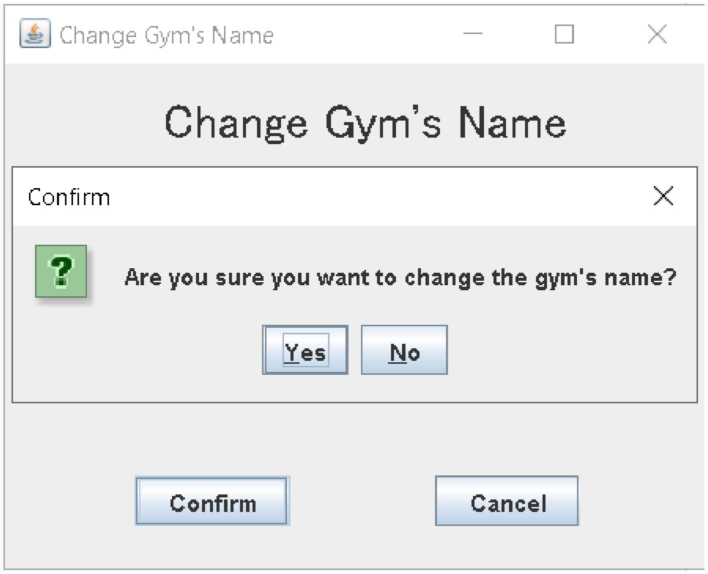
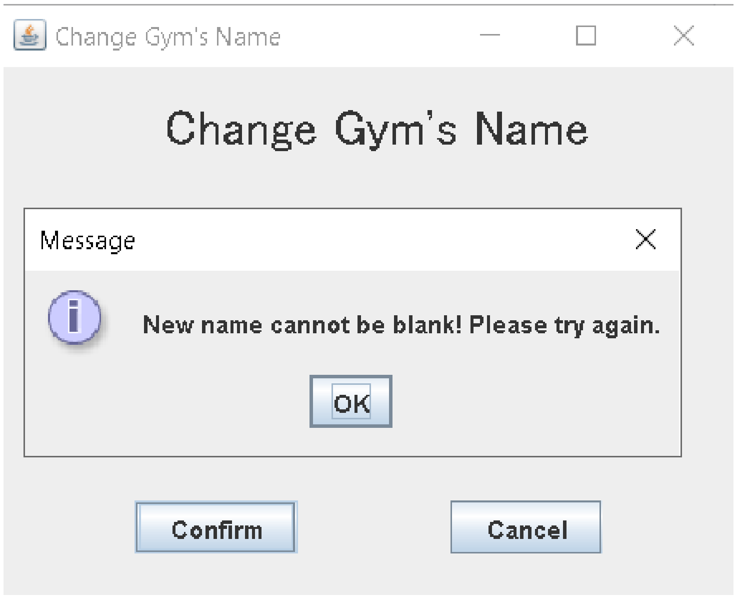
New Gym's Name:

Figure 111: Change Gym’s Name GUI

Table 21: Sample Input for Changing New Gym’s Name

Field	Valid Condition	Example
New Gym’s Name	Any inputs	FitnessLite, Energetic, OOPez

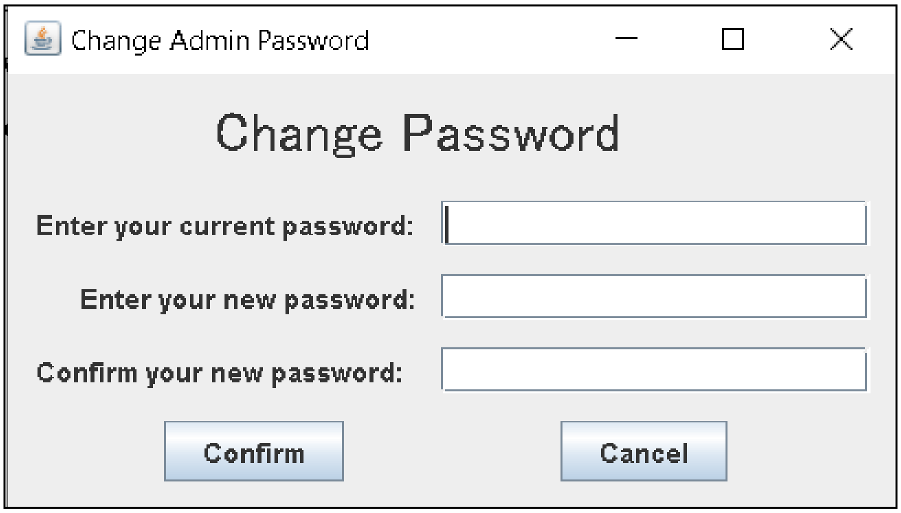
Table 22: Sample Output for Changing New Gym's Name

No.	Description	Output Screen
1	Click "Confirm" when the New Gym's Name field is filled. Selecting "Yes" will modify the value of Gym Name. Selecting "No" will return back the Change Gym's Name menu and nothing will change.	 Are you sure you want to change the gym's name? Change Gym's Name Change Gym's Name Confirm Yes No Confirm Cancel
2	Click "Confirm" when the New Gym's Name field is blank. Select "OK" to return back the Change Gym's Name menu.	 New name cannot be blank! Please try again. Change Gym's Name Change Gym's Name Message OK Confirm Cancel

8.18 Change Admin Password

Again, this menu only accessible by admin. In this menu, there are 3 field to be filled in order to change the password. They are "Enter your current password", "Enter your new password" and "Confirm your new password". Figure shows the menu of "Change Admin

Password" panel. Table 23 and 24 shows the sample input and output of "Change Admin Password" GUI.


Change Admin Password

Change Password

Enter your current password:

Enter your new password:

Confirm your new password:

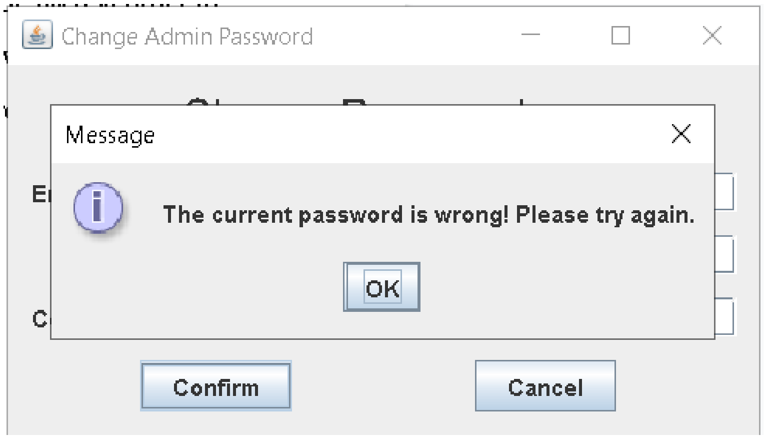
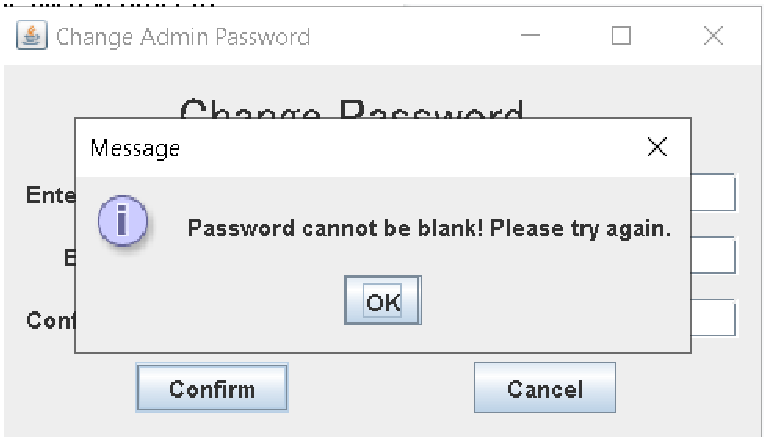
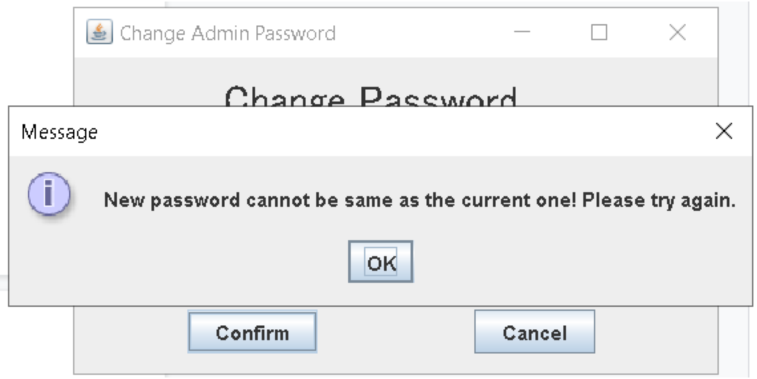
Figure 112: Change Admin Password GUI

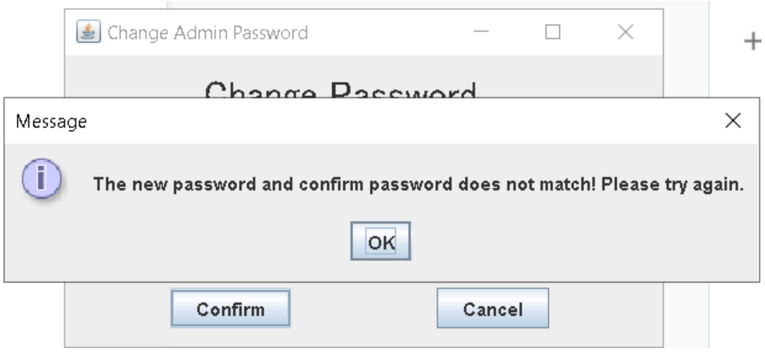
Table 23: Sample Input for Password Information

Field	Valid Condition	Example
Enter your current password	Only 1 input, the current password	admin123
Enter your new password	Any input, besides current password	admin, gymAdmin
Confirm your new password	Only 1 input, same as new password	admin, gymAdmin

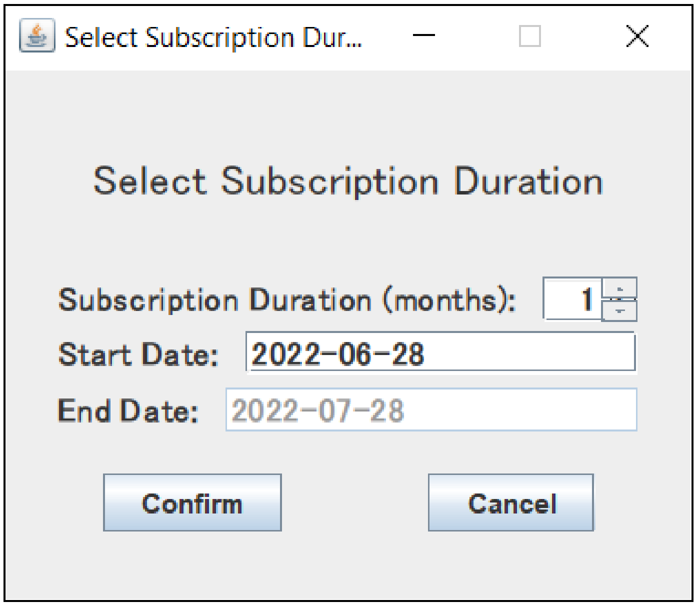
Table 24: Sample Output for Password Information

No.	Description	Output Screen
1	Click "Confirm" when the input of current password is not same as the current password of admin. Select "OK" to return back the "Change Admin Password" GUI.	

		 The current password is wrong! Please try again.
2	Click "Confirm" when the fields is blank. Select "OK" to return back the "Change Admin Password" GUI.	 Password cannot be blank! Please try again. Change Admin Password Change Password Message OK Confirm Cancel
3	Click "Confirm" when the new password is same as the current password. Select "OK" to return back the "Change Admin Password" GUI. Select "OK" to return back the "Change Admin Password" GUI.	 New password cannot be same as the current one! Please try again. Change Admin Password Change Password Message OK Confirm Cancel

4	Click “Confirm” when the new password is different with the confirm password. Select “OK” to return back the “Change Admin Password” GUI.	 Change Admin Password Message The new password and confirm password does not match! Please try again.

8.19 Subscribe New Exercise Plan



Select Subscription Dur...

Select Subscription Duration

Subscription Duration (months): 1

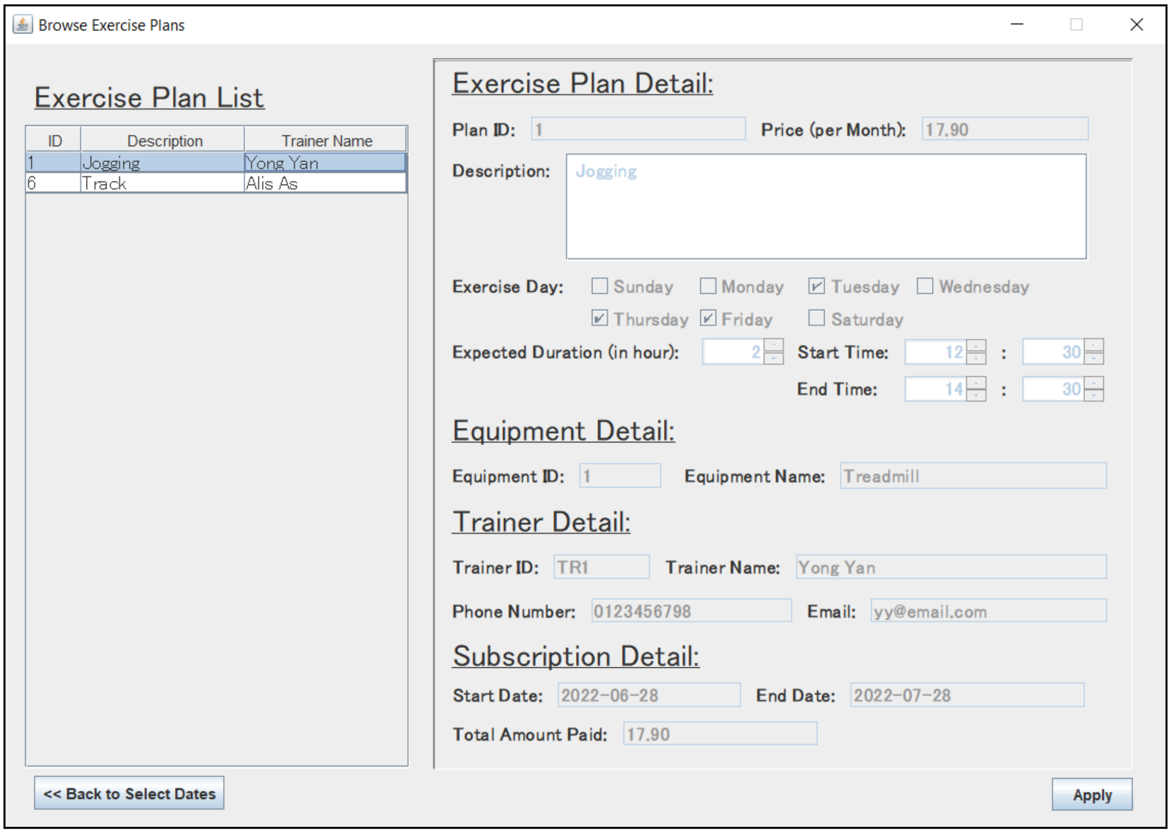
Start Date: 2022-06-28

End Date: 2022-07-28

Figure 113: GUI for Configuration of Plan Duration and Start Date

Table 25: Sample Inputs for Select Subscription Duration

Field	Valid Condition	Example
Subscription Duration	Any duration from minimum of 1 month	1
Start Date	Any date beginning from today	2022-06-28



Exercise Plan List

ID	Description	Trainer Name
1	Jogging	Yong Yan
6	Track	Alis As

Exercise Plan Detail:

Plan ID: 1 Price (per Month): 17.90

Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

Expected Duration (in hour): 2 Start Time: 12 : 30

End Time: 14 : 30

Equipment Detail:

Equipment ID: 1 Equipment Name: Treadmill

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

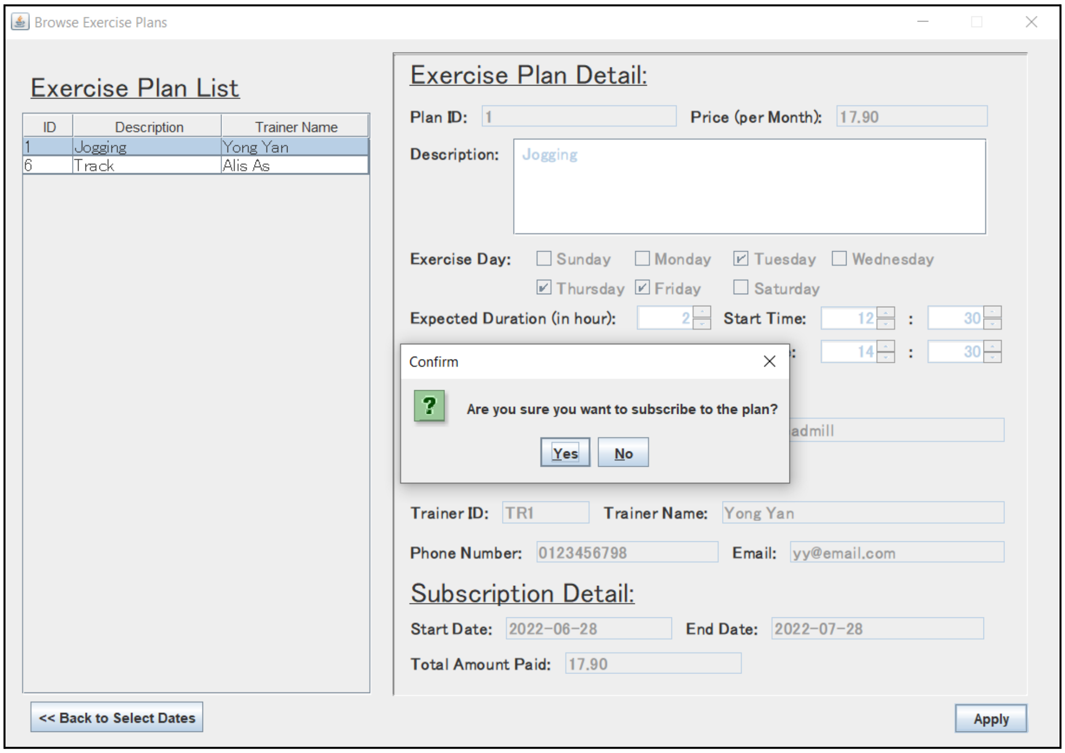
Subscription Detail:

Start Date: 2022-06-28 End Date: 2022-07-28

Total Amount Paid: 17.90

Figure 114: GUI for Exercise Plan List

The customer can click on the available exercise plan from the list to view details of the exercise plan. The customer can also click “Apply” to apply for that exercise plan.



Browse Exercise Plans

Exercise Plan List

ID	Description	Trainer Name
1	Jogging	Yong Yan
6	Track	Alis As

Exercise Plan Detail:

Plan ID: 1 Price (per Month): 17.90

Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday ☑ Thursday ☑ Friday □ Saturday

Expected Duration (in hour): 2 Start Time: 12 : 30

: 14 : 30

admill

Confirm

Are you sure you want to subscribe to the plan?

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

Subscription Detail:

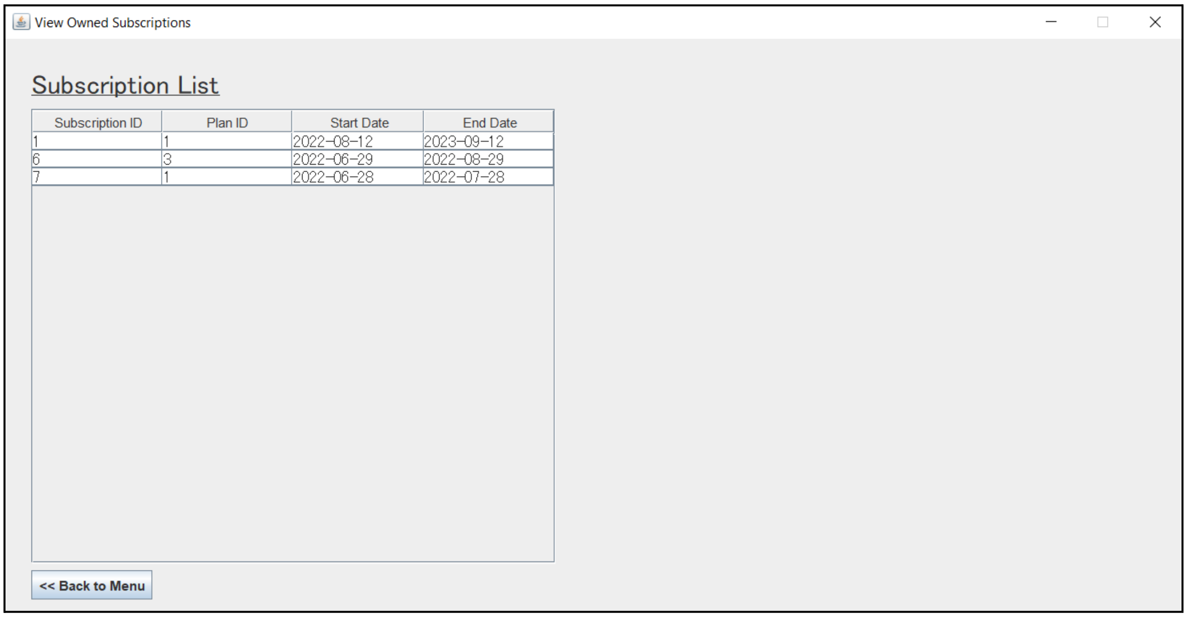
Start Date: 2022-06-28 End Date: 2022-07-28

Total Amount Paid: 17.90

Figure 115: Confirmation Message for Exercise Plan Application

The customer will be prompted with a confirmation message regarding subscribing to the selected plan. If the customer wants to subscribe to the plan, he can click “Yes” to subscribe, or click “No” to cancel the action.

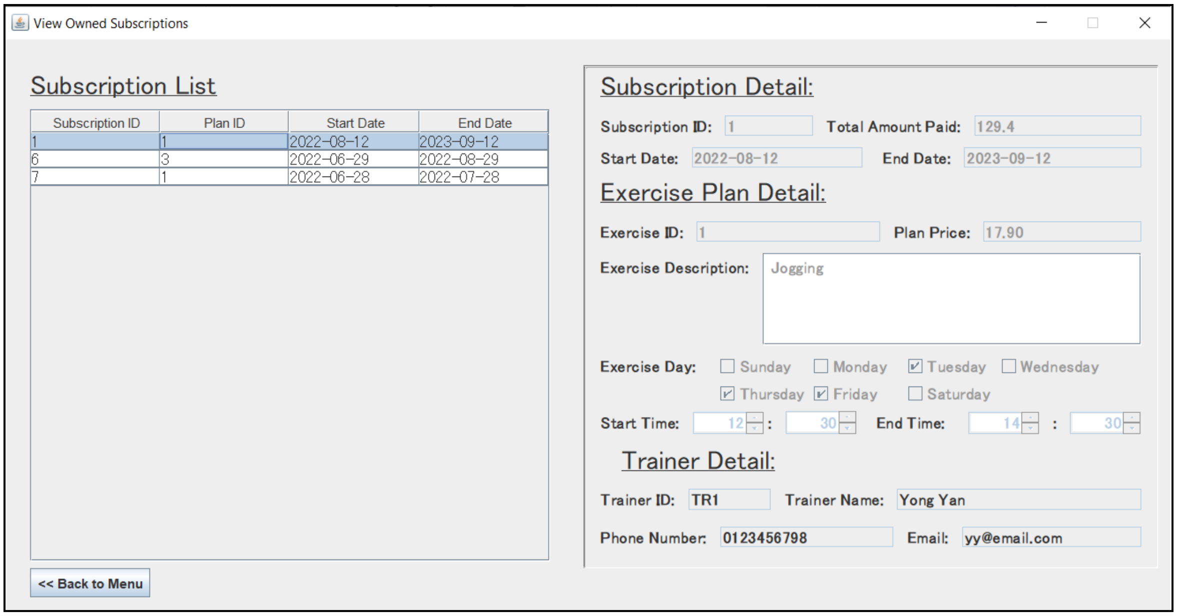
8.20 Viewed Owned Subscriptions



Subscription List

Subscription ID	Plan ID	Start Date	End Date
1	1	2022-08-12	2023-09-12
6	3	2022-06-29	2022-08-29
7	1	2022-06-28	2022-07-28

Figure 116: GUI of Subscribed Exercise Plans



Subscription List

Subscription ID	Plan ID	Start Date	End Date
1	1	2022-08-12	2023-09-12
6	3	2022-06-29	2022-08-29
7	1	2022-06-28	2022-07-28

Subscription Detail:

Subscription ID: 1 Total Amount Paid: 129.4

Start Date: 2022-08-12 End Date: 2023-09-12

Exercise Plan Detail:

Exercise ID: 1 Plan Price: 17.90

Exercise Description: Jogging

Exercise Day: □ Sunday □ Monday ☑ Tuesday □ Wednesday
☑ Thursday ☑ Friday □ Saturday

Start Time: 12 : 30 End Time: 14 : 30

Trainer Detail:

Trainer ID: TR1 Trainer Name: Yong Yan

Phone Number: 0123456798 Email: yy@email.com

Figure 117: GUI of Selected Exercise Plan

The customer can view the list of exercise plans subscribed by him. The customer can also click on each exercise plan to view detailed information regarding each plan.

TASK FOR EACH MEMBER

1. Tay Wei Jian - Team Lead
    a. Distribute and assign tasks to each member
    b. Design and complete program source code for class People, class Staff, class Trainer, class Customer and class Student
    c. Design GUI, interactions and functions for staff main menu, staff manage trainer menu, staff manage customer menu, staff manage exercise plan menu, staff manage subscription menu, customer subscribe exercise plan menu and customer view owned subscription menu
    d. Report writing and complete slide presentation
2. Teoh Yee Xian - Team Member
    a. Design and complete program source code for class Subscription
    b. Design GUI, interactions and functions for staff manage exercise plan menu, staff manage subscription menu, admin main menu, admin manage staff menu, admin change gym's name menu and admin change admin password menu
    c. Report writing and complete slide presentation
3. Tee Jun Hong - Team Member
    a. Design and complete program source code for class Equipment
    b. Design GUI, interactions and functions for system main menu, login menu, customer main menu, customer subscribe exercise plan menu and customer view owned subscription menu.
    c. Report writing and complete slide presentation
4. Tham Chuan Yew - Team Member
    a. Design and complete program source code for class ExercisePlan
    b. Design GUI, interactions and functions for trainer main menu and trainer manage exercise plan menu
    c. Testing the functionality of whole program and ensuring no problem contained in the final system
    d. Report writing and complete slide presentation