PAF- KARACHI INSTITUTE OF ECONOMICS & TECHNOLOGY

College of Engineering

(Software Engineering)

PROJECT NAME: "GYM Management System"

COURSE NAME: Software Design Architecture

COURSE CODE: 108847

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REGISTRATION NO: 12201, 10978,11927

Table of Context

1. Introduction

As a gym owner, you're constantly juggling your time and resources to manage your fitness business. Running a great gym is both incredibly rewarding and challenging. When you manage any business, daily operations and administrative tasks can take up a lot of time. Gym management software can help you do all of these tasks. While the features of gym management software can vary massively, you can find features that will help to improve your overall business

This software used in gym business this software help us in many ways like collecting data manage stuff detail , members info we can easily store all the information through this software and provide the peaceful environment to all the peoples who are connected .

 In this software basically we are doing things in proper manner for our comfort and others too. We are managing employees, gym trainer, members data in this software through this application or software we can do multiple complex task in a very manner which can understand easily we can view total members list you can get your specified member by the search option.You can either get the payment record either all the customer's dues are paid or not. This task is so hard when you are maintaining this on a paper sheet.

2. Abstract:

Our project is for GYM owners to manage GYM data of customers and staff. By this GYM owners will be able to keep track of their customers and their payments.
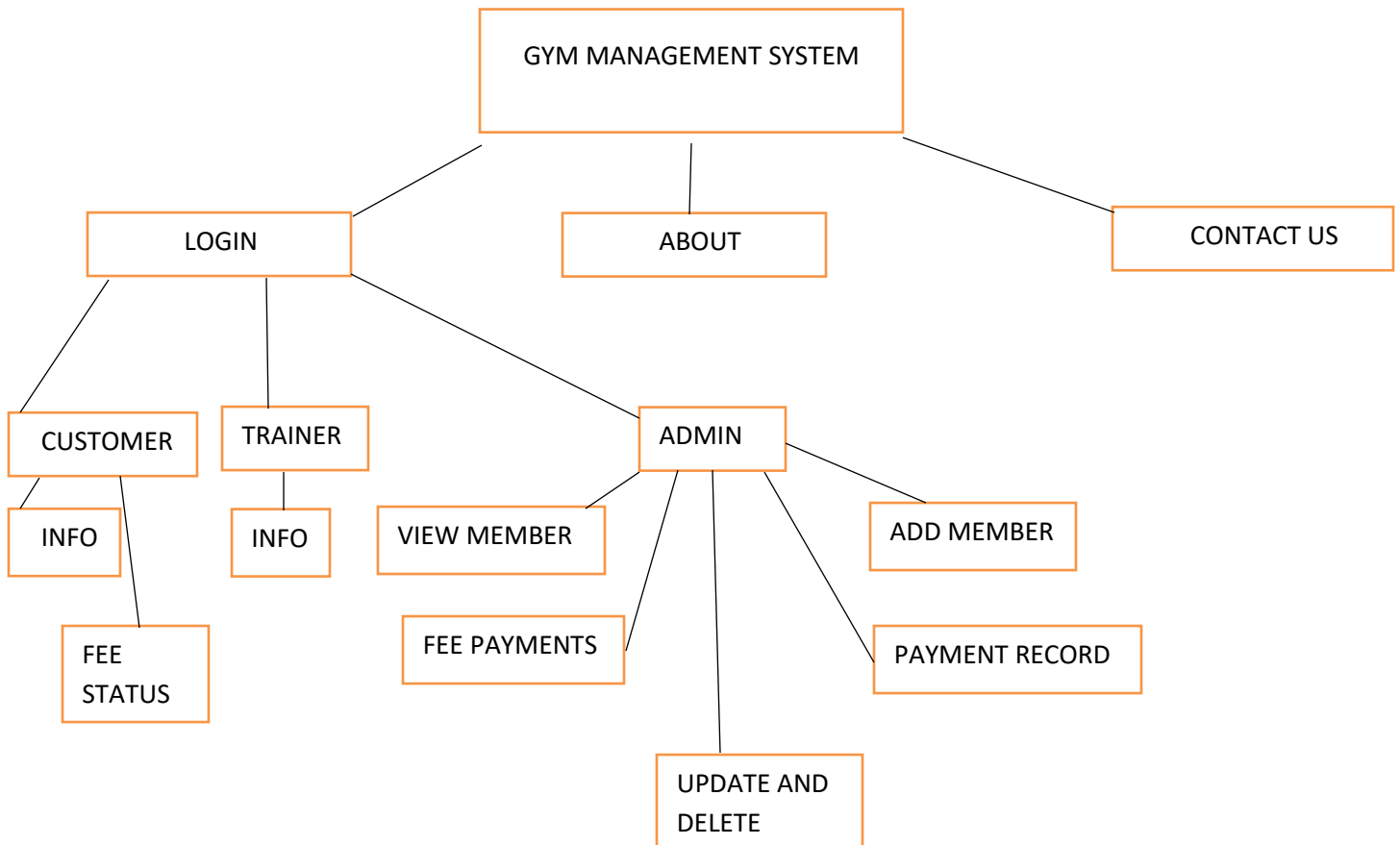
- It is simple and it design in the same way the customer wants and the owner.
- Here is our feature list which include:
- Manage customer
- Complete payment statistics of customer
- Complete transaction history which is undeletable.
- Manage trainers.
- Customer can track of their information stored and their fee history.
- Trainer can track of their information.
- Admin can update and delete the members.
- Admin can view the all members at a time.
- It maintain security of our data.
- Login system which maintain high security of our system.
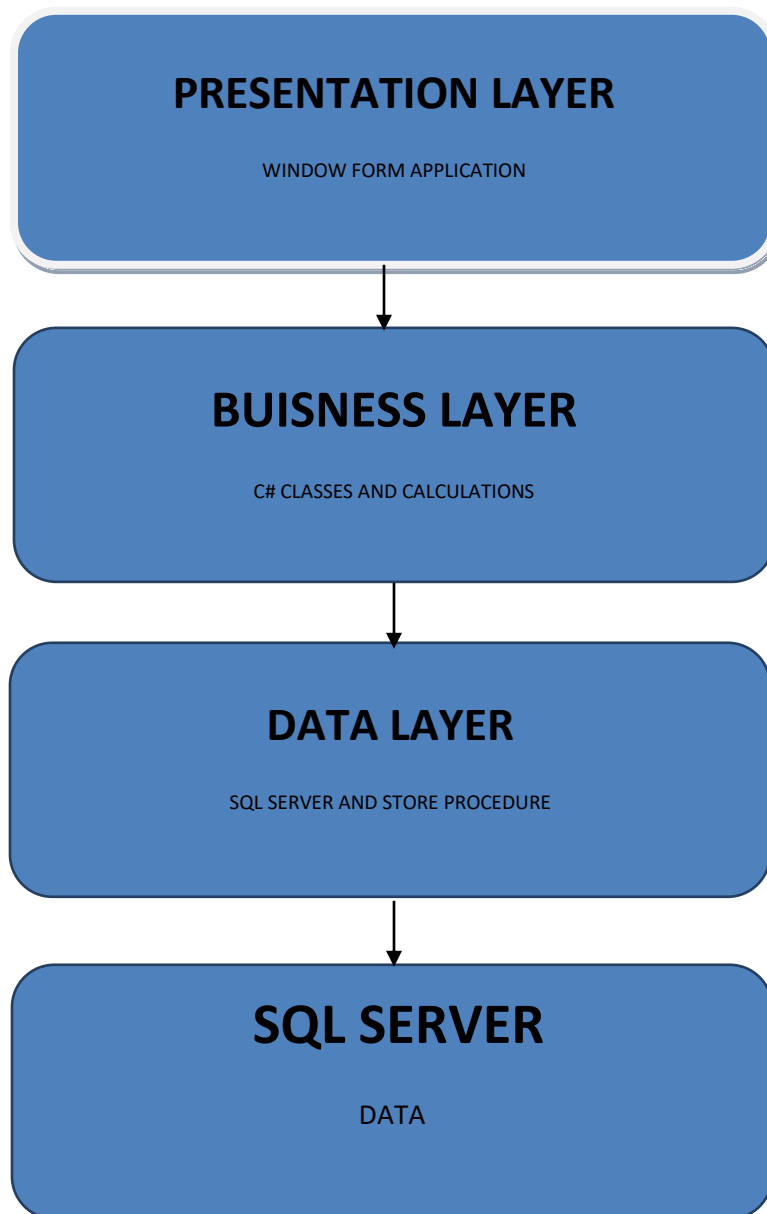
3. Acknowledge:

- It is our esteemed pleasure to present a project on GYM management system using three tier architecture

- Muhammad Saad worked on the documentation of the project and the designing of MS-SQL database tables

- Muhammad Mansoor worked on the implementation and coding of the logics Talha Iqbal worked on the designing of the forms and user interfaces and came up with detailed designing

4. List of figures:

4.1. Interface Diagram

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                    ┌─────────────────────────────┐
                    │  GYM MANAGEMENT SYSTEM      │
                    └─────────────────────────────┘

   ┌──────────┐        ┌──────────┐              ┌──────────────┐
   │  LOGIN   │        │  ABOUT   │              │  CONTACT US  │
   └──────────┘        └──────────┘              └──────────────┘

┌──────────┐  ┌──────────┐        ┌──────────┐
│ CUSTOMER │  │ TRAINER  │        │  ADMIN   │
└──────────┘  └──────────┘        └──────────┘

┌────────┐      ┌────────┐   ┌──────────────┐      ┌──────────────┐
│  INFO  │      │  INFO  │   │ VIEW MEMBER  │      │  ADD MEMBER  │
└────────┘      └────────┘   └──────────────┘      └──────────────┘

   ┌──────────┐         ┌──────────────┐       ┌──────────────────┐
   │   FEE    │         │ FEE PAYMENTS │       │  PAYMENT RECORD  │
   │  STATUS  │         └──────────────┘       └──────────────────┘
   └──────────┘

                     ┌──────────────┐
                     │ UPDATE AND   │
                     │ DELETE       │
                     └──────────────┘
```

4.2. Architectural Diagram:

PRESENTATION LAYER

WINDOW FORM APPLICATION

BUISNESS LAYER

C# CLASSES AND CALCULATIONS

DATA LAYER

SQL SERVER AND STORE PROCEDURE

SQL SERVER

DATA

5. Problem and solution:

The problem we faced during the project was connectivity of data base and implementation of 3 tier architecture that how to keep our data safe and secure.

we solved this problem by taking help for lab manual in which we studied about 3-tier and then we understood what data to be shown in business layer and how to keep data hidden by putting it in data layer

Another problem which occurred was that we wanted to make track to each customer's monthly payment for this we worked on the approach to make a separate table for each customer by their name and id but when we add a new customer we need to make it's table at run time but there are some full names which contains spaces in between but table name with space is not acceptable.

we solved this problem by making a single table that have columns for each month and a column for customer Id which will have record for all customers so when we add a new customer it's payment record will be added in that table by with its customer ID

6. Workflow:

In the starting week we created a rough structure of the tables we will use in our database with their column

after that we started creating the database with all the tables and connected it our windows form

Then we started the design work or user interfaces and the main menu form
As the main menu form is created the implementation of codes is started according to the buttons

When we reached to the add customer option our work flow was disturbed and slowed as we got problem in it that we wanted to make track to each customer's monthly payment for this we worked on the approach to make a separate table for each customer by their name and id but when we add a new customer we need to make it's table at run time but there are some full names which contains spaces in between but table name with space is not acceptable.

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After that we started working fluently and ended our project within 3 weeks

7. Overview of project:

We developed this project to make it easy for GYM owners to work they can keep track of the customers payments and attendance of staff by this application customers can also have record of their payments and spends and can get informed when their membership is near to be expired.

We have separate login systems for customers Admin and Trainer so that data of all is kept safe customers cannot access trainers data and vice versa only admin is allowed to access all the data and only admin is allowed to delete and update or add any record.

Customers can check their own info and their fee status.

Trainers can only access their info.

This project will also generate invoice of fee payments to be given to the customers for their manual records.

8. Output (screen shots with details):

8.1. Main Menu

8.2. About Us

8.3. Contact Us

8.4. Login Page

8.4.1. Customer

8.4.2. Trainer

8.4.3. <u>Admin</u>

8.4.3.1. <u>Add Members</u>
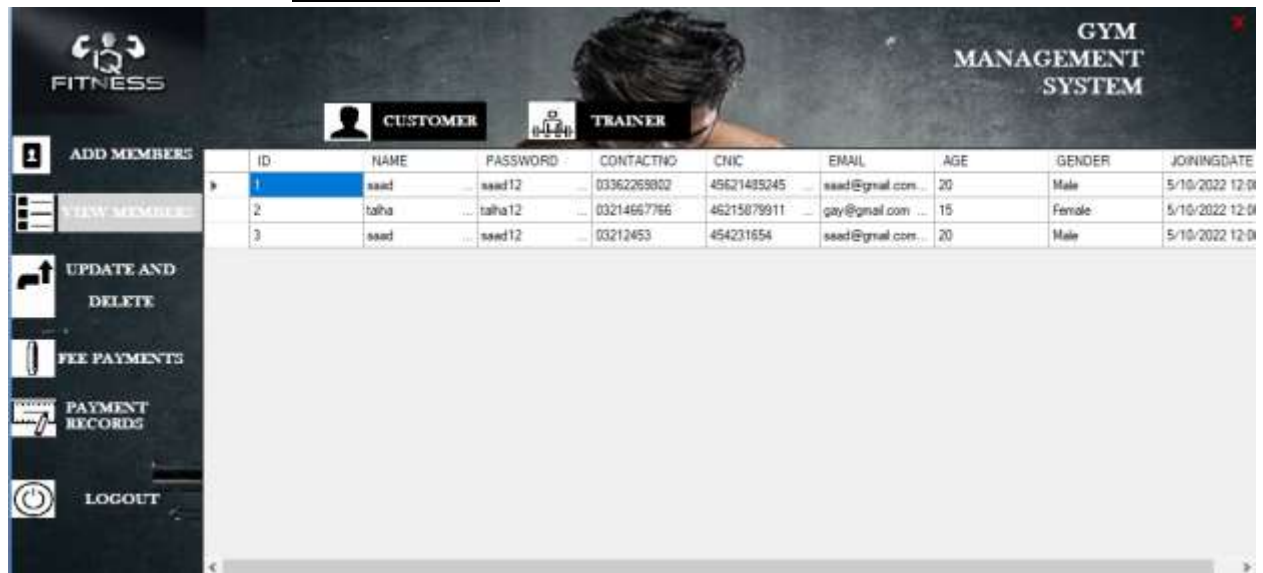
8.4.3.2. View Members

8.4.3.3. Update and delete

8.4.3.4. Payments

8.4.3.5. Payment Records

9. Conclusion:

We accomplished to create a program which is based on GYM management and this program would be very helpful for the GYM owners to keep the record of their new members and the members who have now left the GYM

We would have added the part in which salaries of the staff is also managed so as the GYM owner has a track of the staff whose salary is not paid and can send them their salaries as soon as possible. And will also add the diet part for customers so that they can get the proper diet plan according to their goals as they login

Our future work would be that we will take Feedbacks from different GYM owners on our program and will look into it that if anything else is left to be added in it and will try to make it better for the owners to use and will launch it in market and sell it to the GYM owners

10. References:

We took a little bit reference from a youtube video

https://youtu.be/aer8S1fFbNc