04170207

Software Engineering

Phase 2: Software Design Document
Muscles Monsters(fitness club)

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GitHub link:https://github.com/amrs12145/softwareEngineering-project

Dec 2020

Phase 2
Project: <Project Name>

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Team

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Document Purpose and Audience

Depending on this Document we can help Technical Staff Solving and Developing the required software Throw displaying useful diagrams and representing it in multi forms (UML, sequence, Database ,Algorithm) to ease the implementation process.

target audience

1- CEO , Software Architect ,Chief Software Officer

2- UI/UX Designer
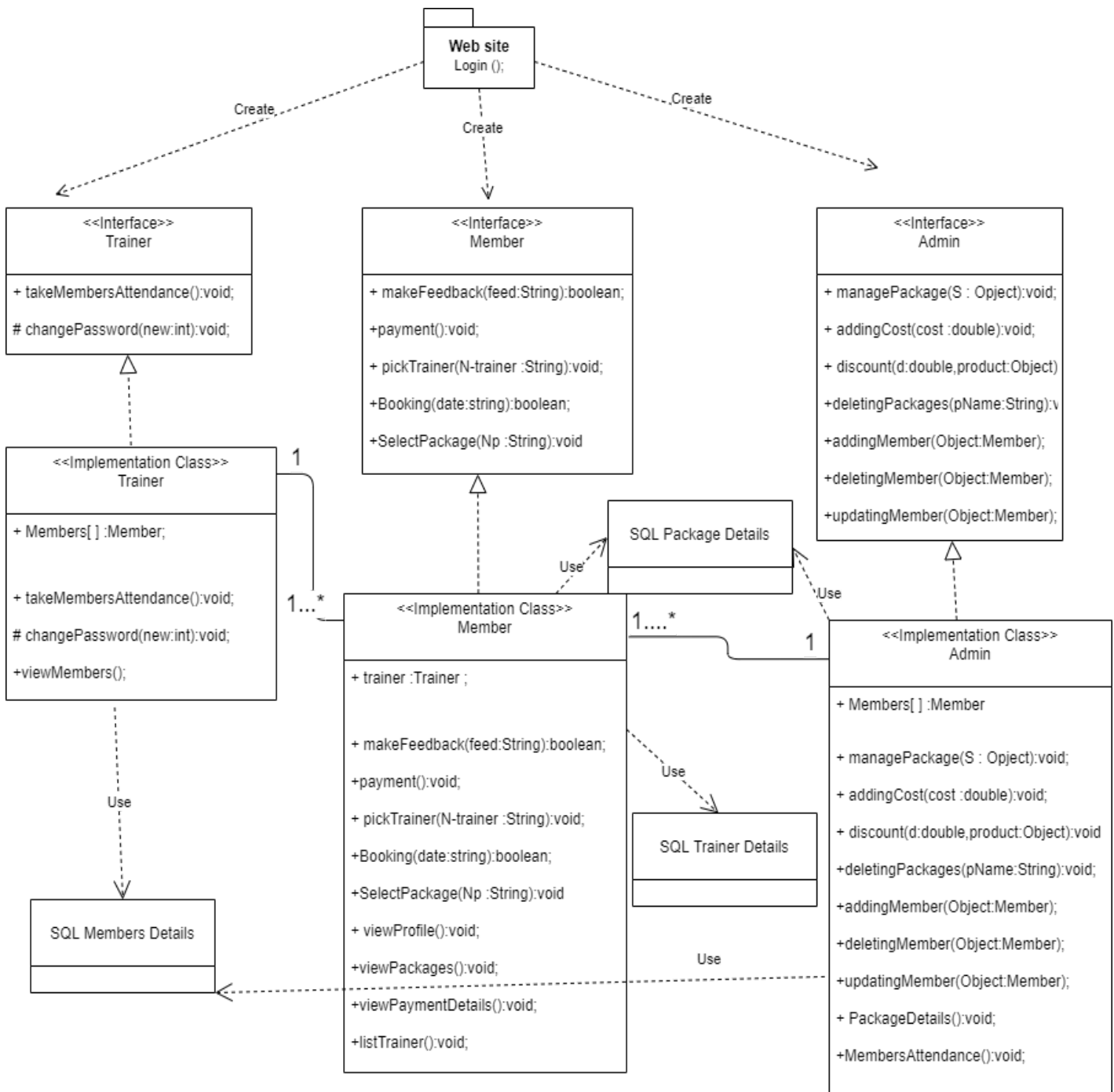
3- Back-end/Front-end Developers

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System Models

● Class diagrams

Web site
Login ();

Create — Create — Create

<<Interface>> Trainer
+ takeMembersAttendance():void;
# changePassword(new:int):void;

<<Interface>> Member
+ makeFeedback(feed:String):boolean;
+payment():void;
+ pickTrainer(N-trainer :String):void;
+Booking(date:string):boolean;
+SelectPackage(Np :String):void

<<Interface>> Admin
+ managePackage(S : Opject):void;
+ addingCost(cost :double):void;
+ discount(d:double,product:Object)
+deletingPackages(pName:String):v
+addingMember(Object:Member);
+deletingMember(Object:Member);
+updatingMember(Object:Member);

<<Implementation Class>> Trainer
+ Members[ ] :Member;
+ takeMembersAttendance():void;
# changePassword(new:int):void;
+viewMembers();

<<Implementation Class>> Member
+ trainer :Trainer ;
+ makeFeedback(feed:String):boolean;
+payment():void;
+ pickTrainer(N-trainer :String):void;
+Booking(date:string):boolean;
+SelectPackage(Np :String):void
+ viewProfile():void;
+viewPackages():void;
+viewPaymentDetails():void;
+listTrainer():void;

SQL Package Details

Use — Use

1 — 1....* — 1

<<Implementation Class>> Admin
+ Members[ ] :Member
+ managePackage(S : Opject):void;
+ addingCost(cost :double):void;
+ discount(d:double,product:Object):void
+deletingPackages(pName:String):void;
+addingMember(Object:Member);
+deletingMember(Object:Member);
+updatingMember(Object:Member);
+ PackageDetails():void;
+MembersAttendance():void;

SQL Trainer Details

SQL Members Details

Use

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subsystem 1 refers to the employees of the gym and subsystem 2 refers to the members and customers

Class ID	Class Name	Subsystem ID	Description & Responsibility
1	Admin	1	1- Admin of the the gym have the permission to add new members, upgrade their information or delete expired subscribers.
1	Admin	1	2- in addition to attracting new customers throw new discounts on packages as they can add new packages or even adding special promo codes for special members
2	Trainer	1	1- Trainers of the gym can customize their private profile so when members watch it can easily pick them depending on their portfolio.
2	Trainer	1	2- Trainers can also take attences for members so lazy members can not find a place in this gym or working-out harder and more seriously..
2	Trainer	1	3- Viewing members history and packages they subscribed to and adding a rating for them
2	Trainer	1	4-changing their current password or profile picture
3	Member	2	Logging into the system and adding their private portfolio
3	Member	2	1- Viewing Top-Rated Trainer's portfolio and selecting whatever they want depending on the trainer plan and

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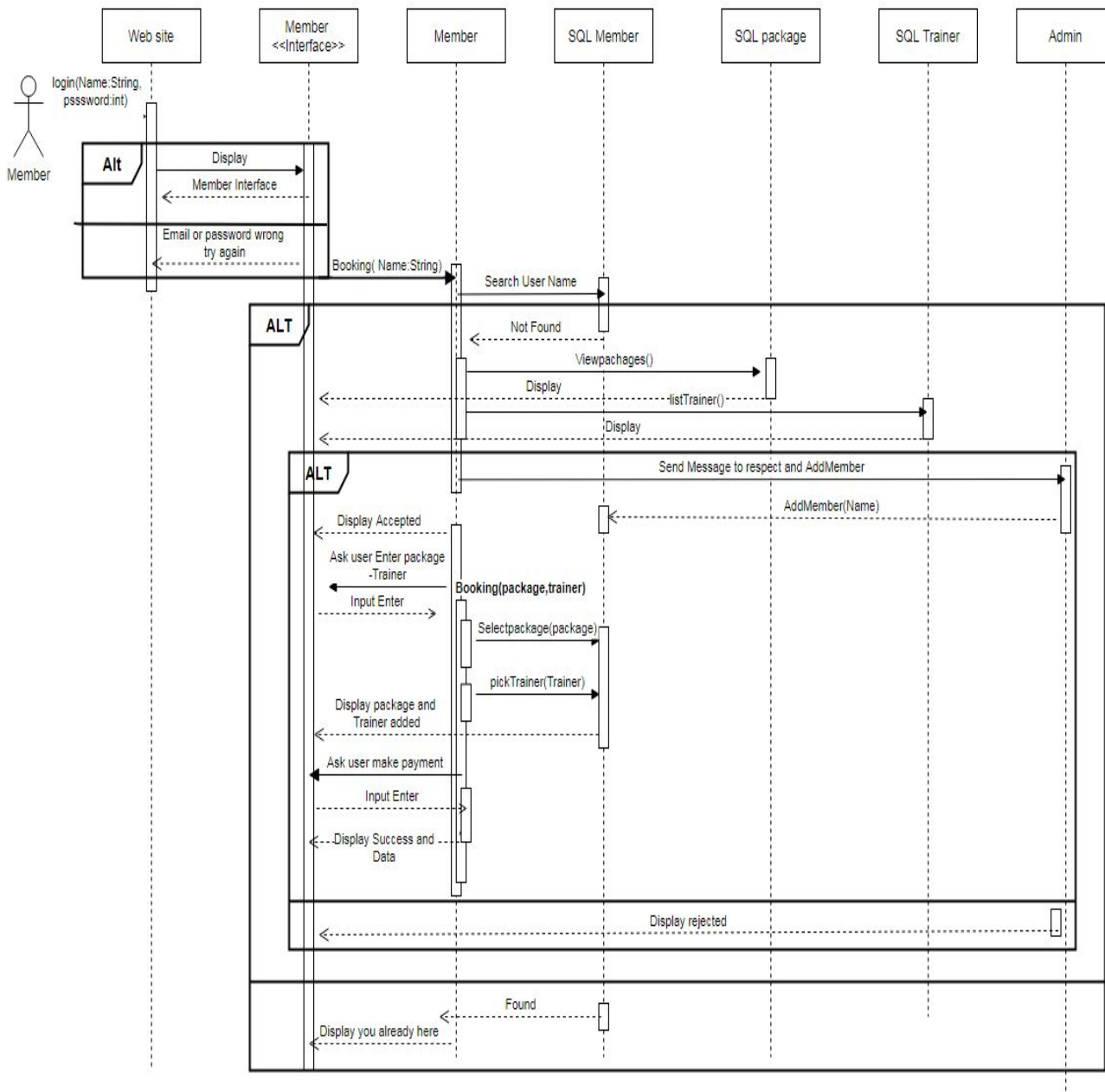|			
			previous ratings
3	Member	2	2-Booking and choosing the package which goes with the membre condition
3	Member	2	3- Selecting the Payment method (MasterCard,Meeza,Cash)
3	Member	2	3- Giving Feedback to trainers so the gym administration can reward trainers and giving a bounce to them (it's considered as the most important process)

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I. Sequence diagrams

Member class Booking

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Trainer class

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Manage Package Admin Class

Manage Package Overload
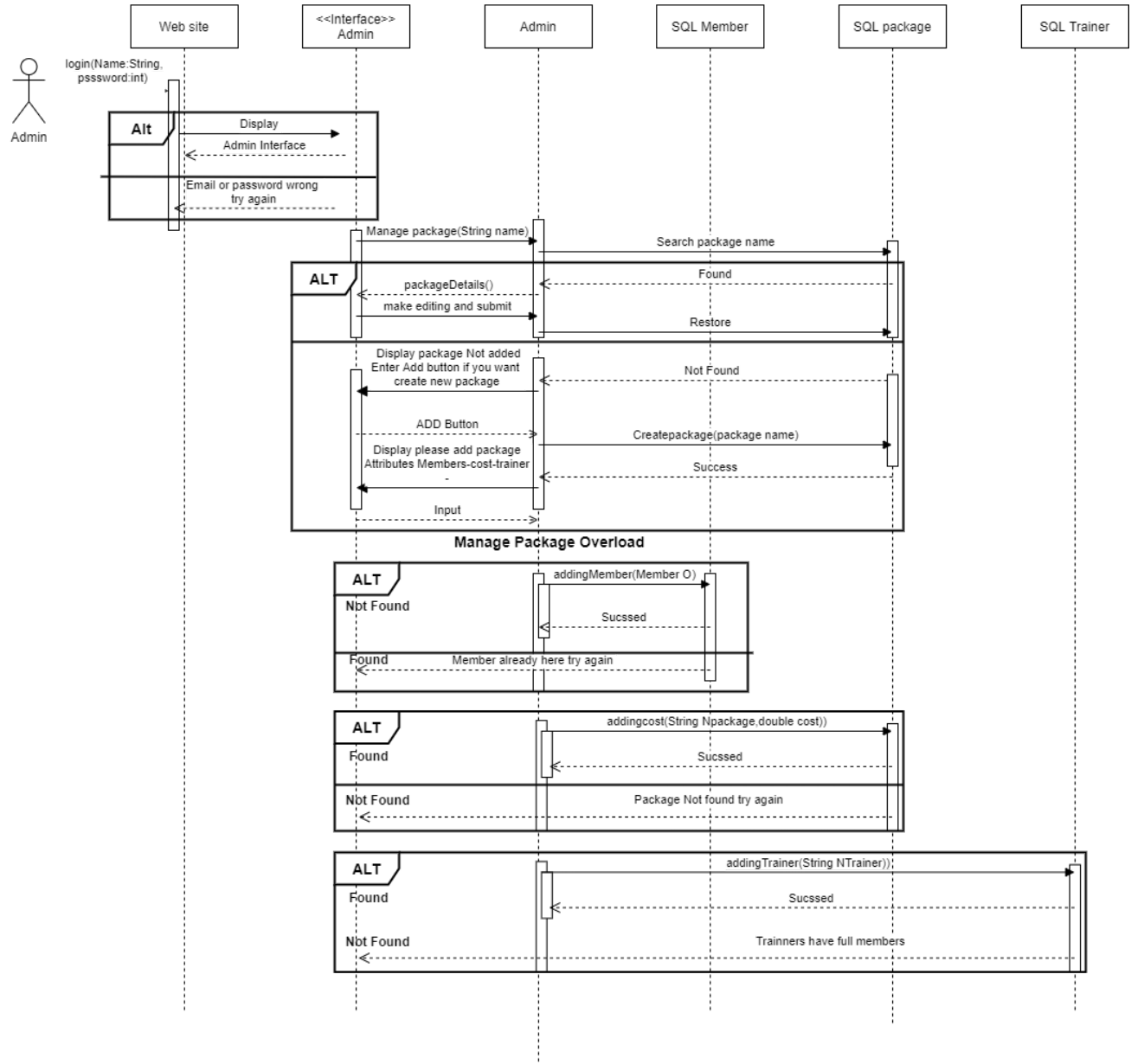
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Class - Sequence Usage Table

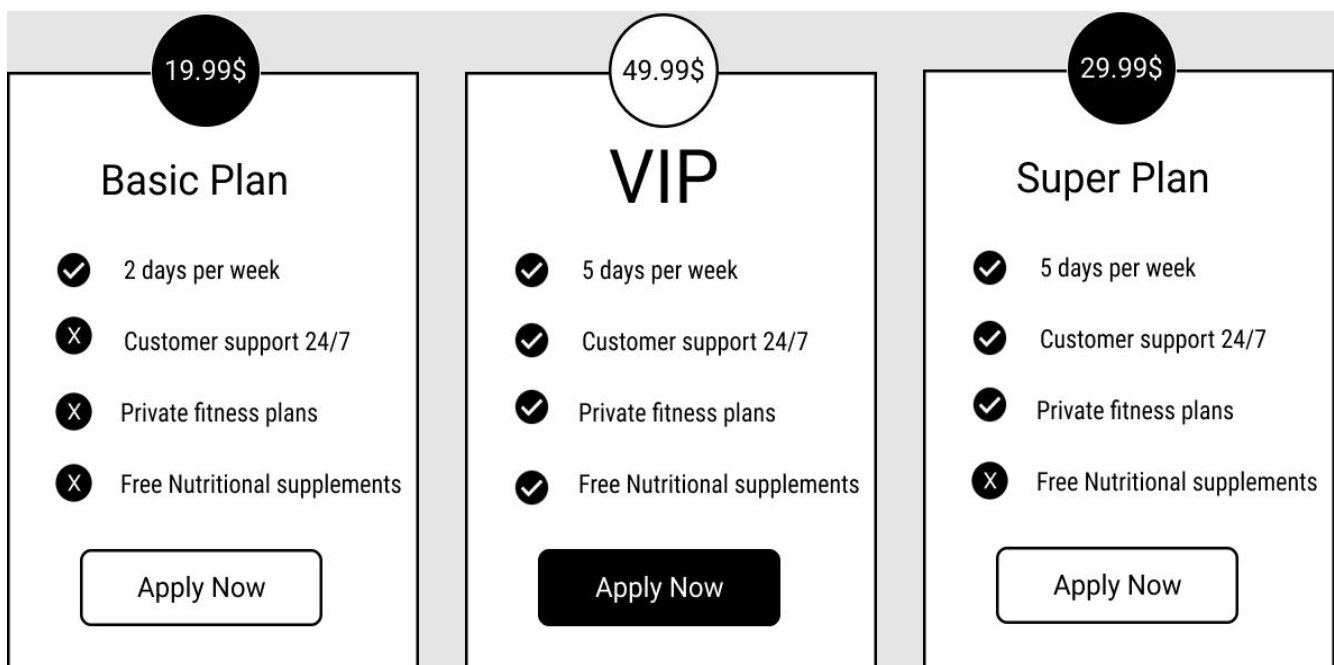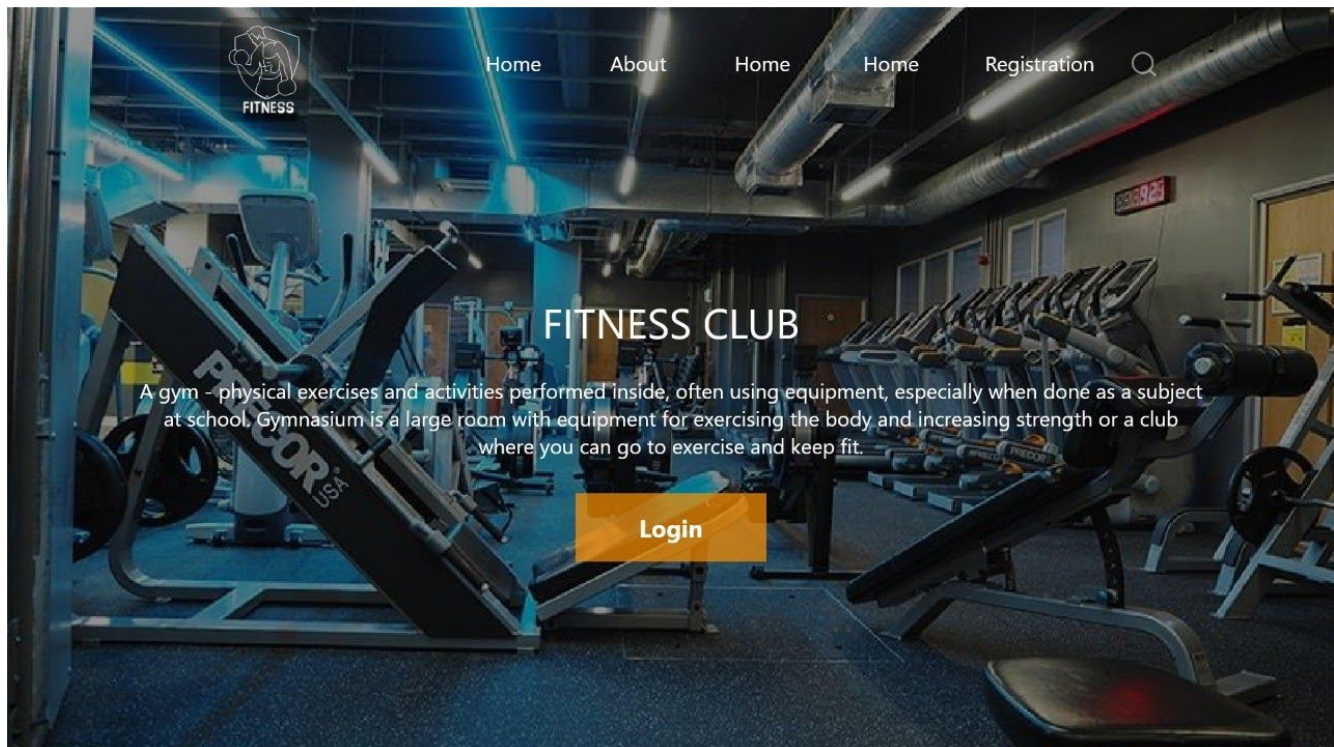| Class Name	Sequence Diagrams	Overall used methods
Admin.	1- Continuous checking for absent members and trainer's rating so that deciding who gonna take bounce or fired 2- Adding new discounts and low-income pakges ending with attracting new members demanding bigger databases 3- Deleting lazy members in case of skipping continuous 5 absent days	AddPackage delete, upgradePackage addMember, deleteMember, updateMember, ViewAttendance addPaymentMethod
Trainers	1- Customizing his portfolio career 2-Taking members attendance 3- Adding new private plans for low-income users	takeAttendance customizePortfolio Login, changePassword
Members	1-member try to book a package with a topRated trainer getting trainers sorted from the	Login, changePassword viewTrainers , viewToprated viewPackages, viewDiscounts

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	database with discounts	paybill,viewSubscription
	2-admin verify the member or reject with a failed message	
	3-if verified the member can specify his Payment method	
	4-cybersecurity engineers job is to prevent hacking in this process giving memberes a smooth paying process	

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III. User Interface Design

FITNESS CLUB

A gym - physical exercises and activities performed inside, often using equipment, especially when done as a subject at school. Gymnasium is a large room with equipment for exercising the body and increasing strength or a club where you can go to exercise and keep fit.

Login

Basic Plan — 19.99$	VIP — 49.99$	Super Plan — 29.99$
✓ 2 days per week	✓ 5 days per week	✓ 5 days per week
✗ Customer support 24/7	✓ Customer support 24/7	✓ Customer support 24/7
✗ Private fitness plans	✓ Private fitness plans	✓ Private fitness plans
✗ Free Nutritional supplements	✓ Free Nutritional supplements	✗ Free Nutritional supplements
Apply Now	Apply Now	Apply Now

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Registration

Name

Enter Your Full Name

User Name

Enter Your user Name

Email

Enter Your Email Adress

Password

Your password

Confirm

Join us

Subscribe YouTube Chanel to reach
you each new

About Us

Select Your Perfect
suitable Trainer

Big Ramy

i'm a professional Fitness Trainer

Visit Profile

★★★★⯪

Dexter Jackson.

i'm a professional Fitness Trainer

Visit Profile

★★★★⯪

Phil Heath.

i'm a professional Fitness Trainer

Visit Profile

★★★★

Kai Greene.

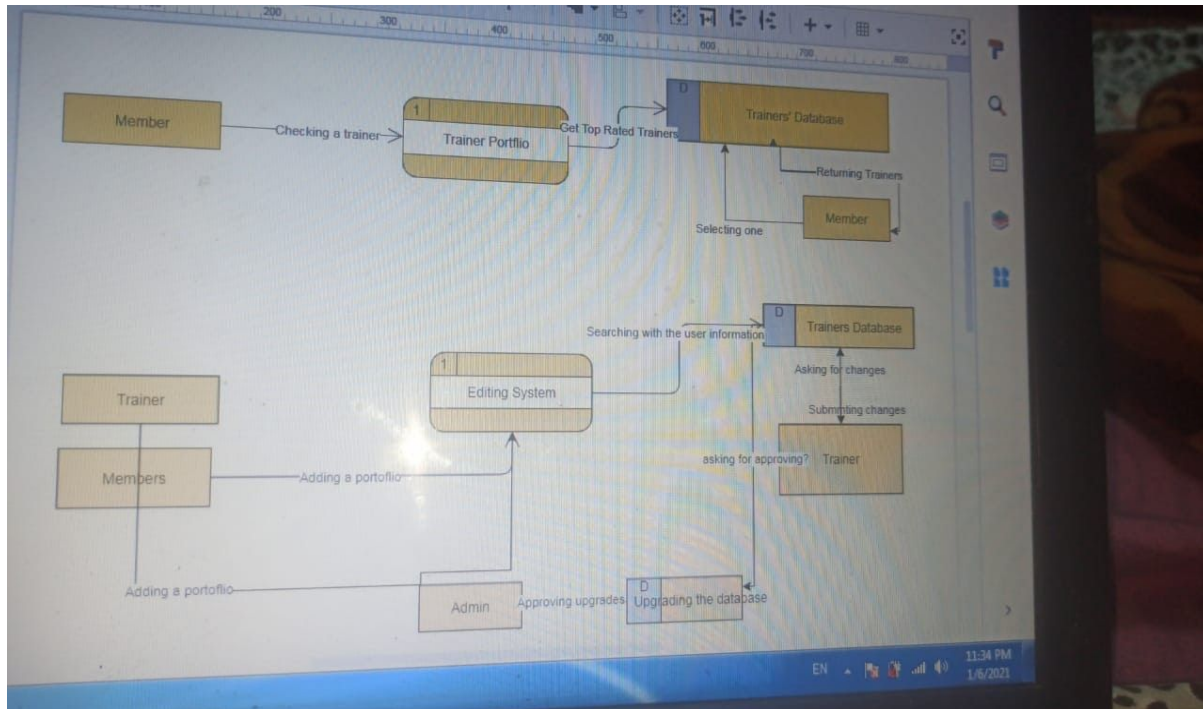i'm a professional Fitness Trainer

Visit Profile

★★★⯪

LOGIN

Your name...

Your name...

who you are

i'm a   TRINER ▼

LOGIN

IV. Data Flow diagram (DFD)
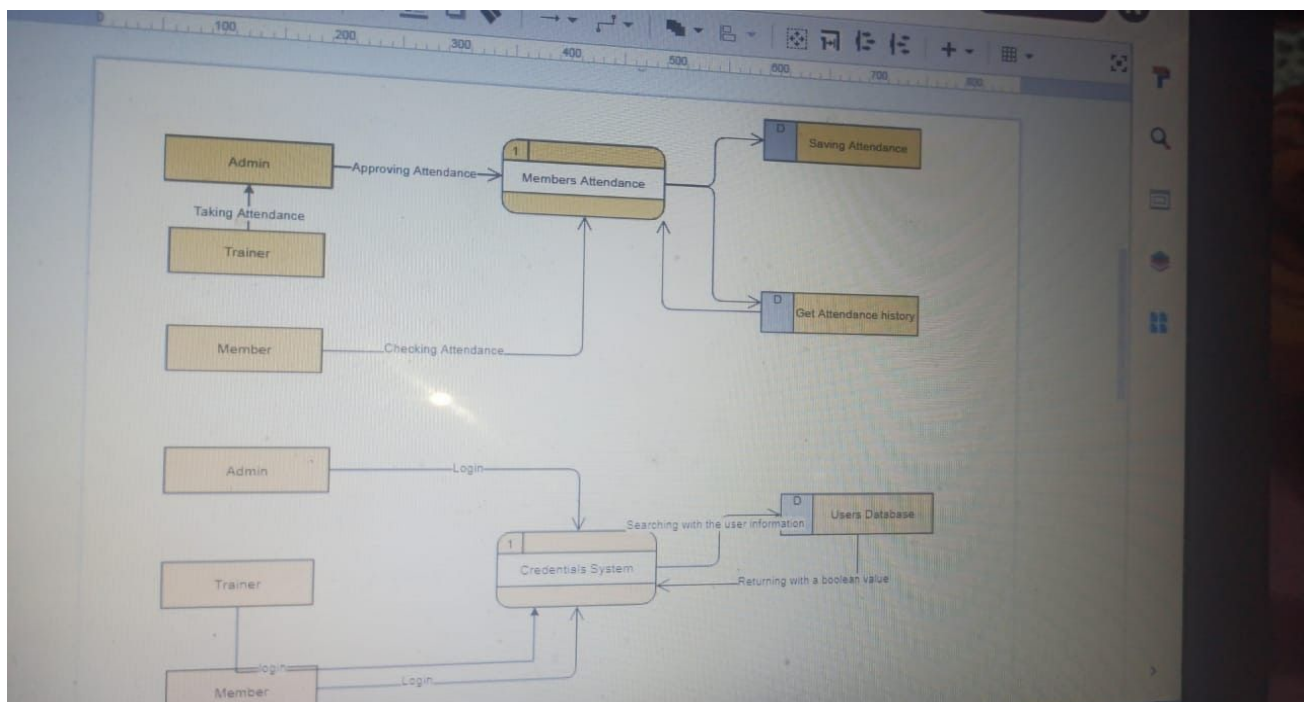
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V. ERD Diagram
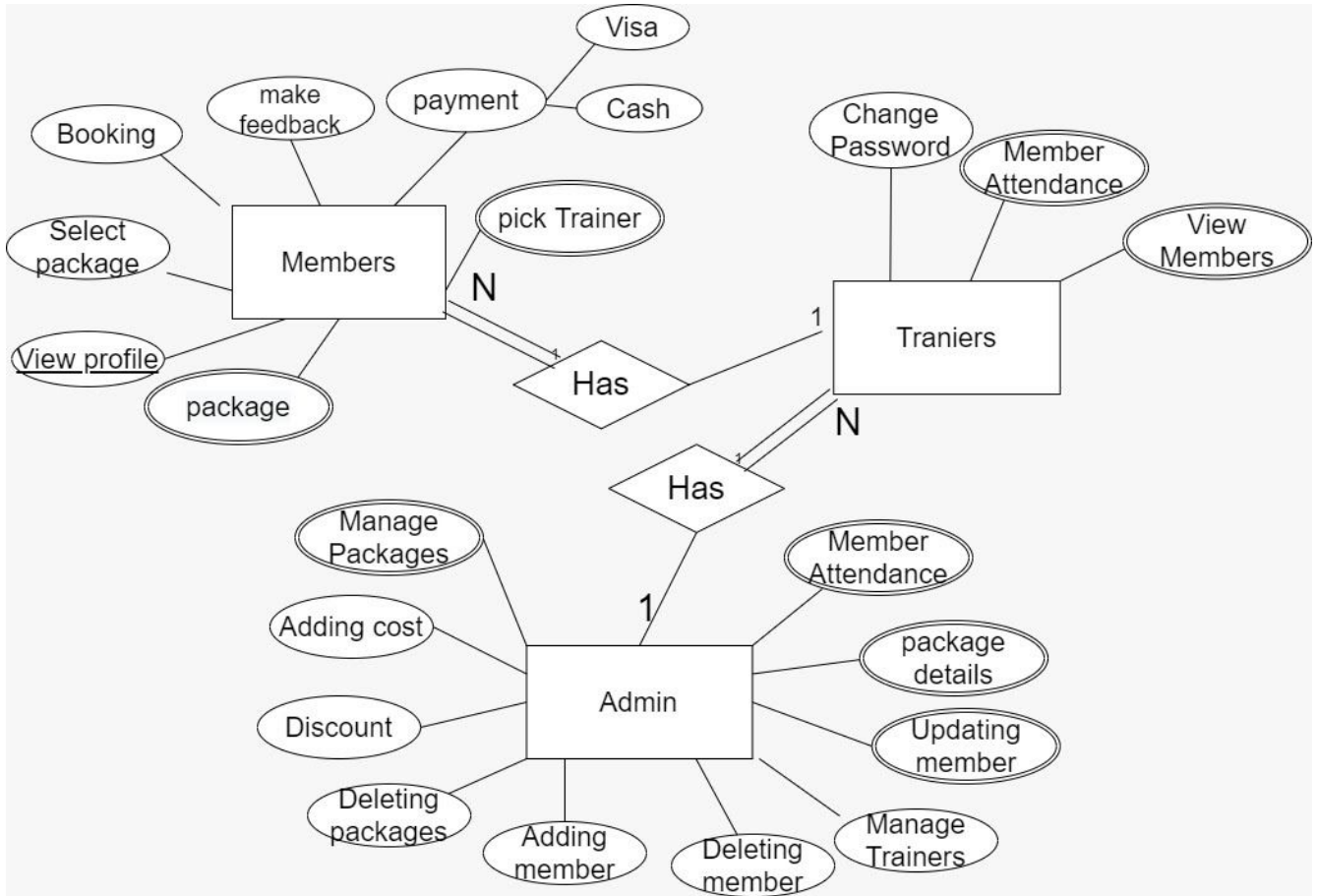
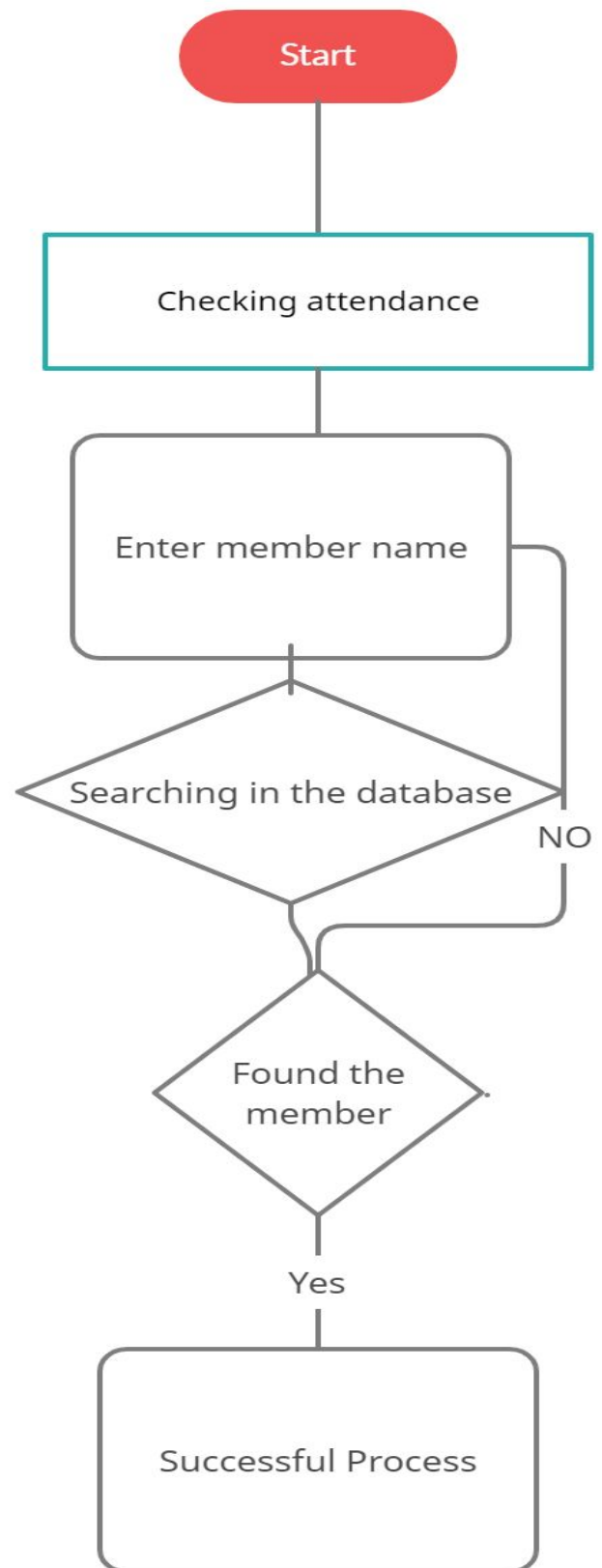## VI. Algorithms and Data Structures
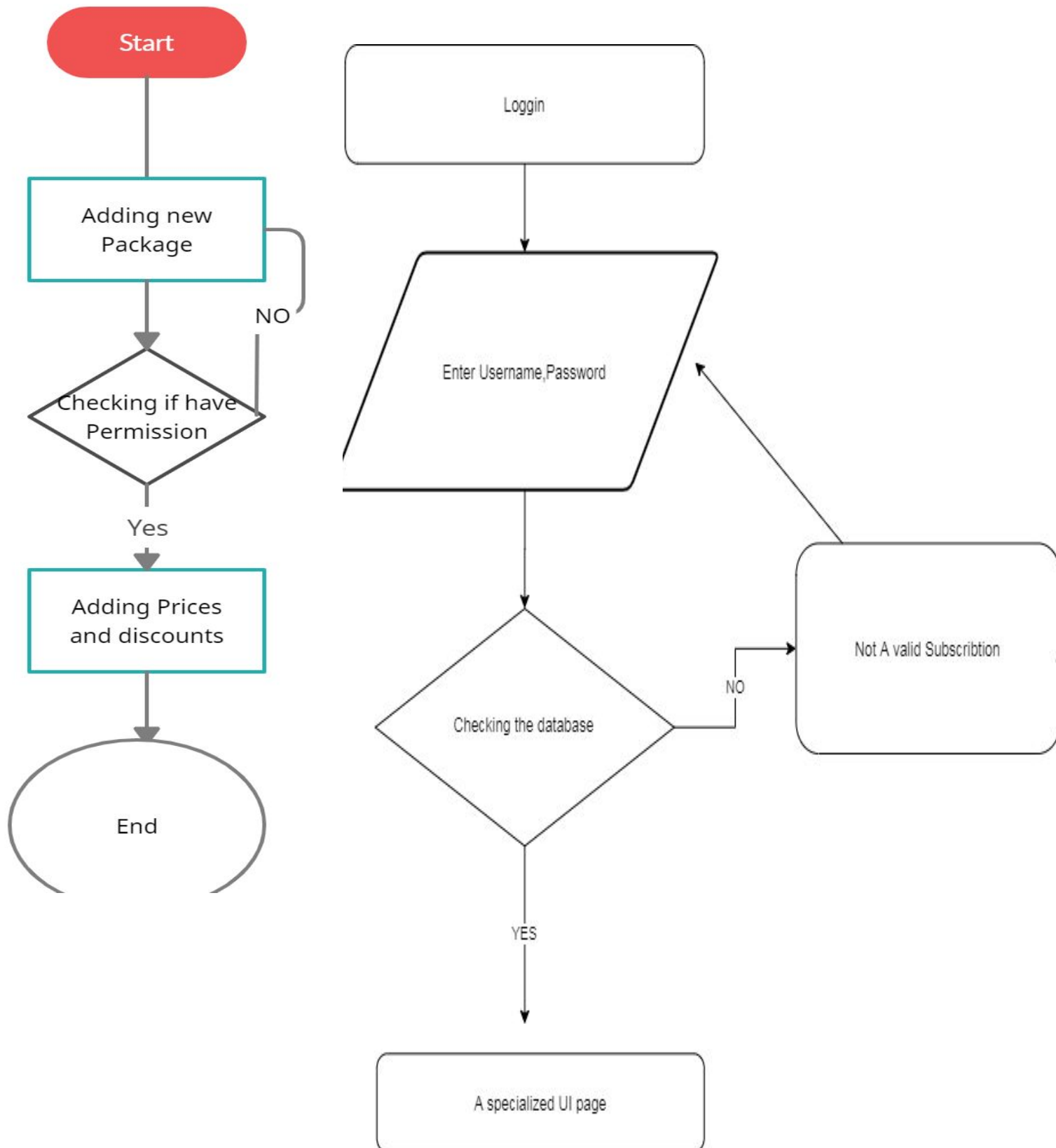
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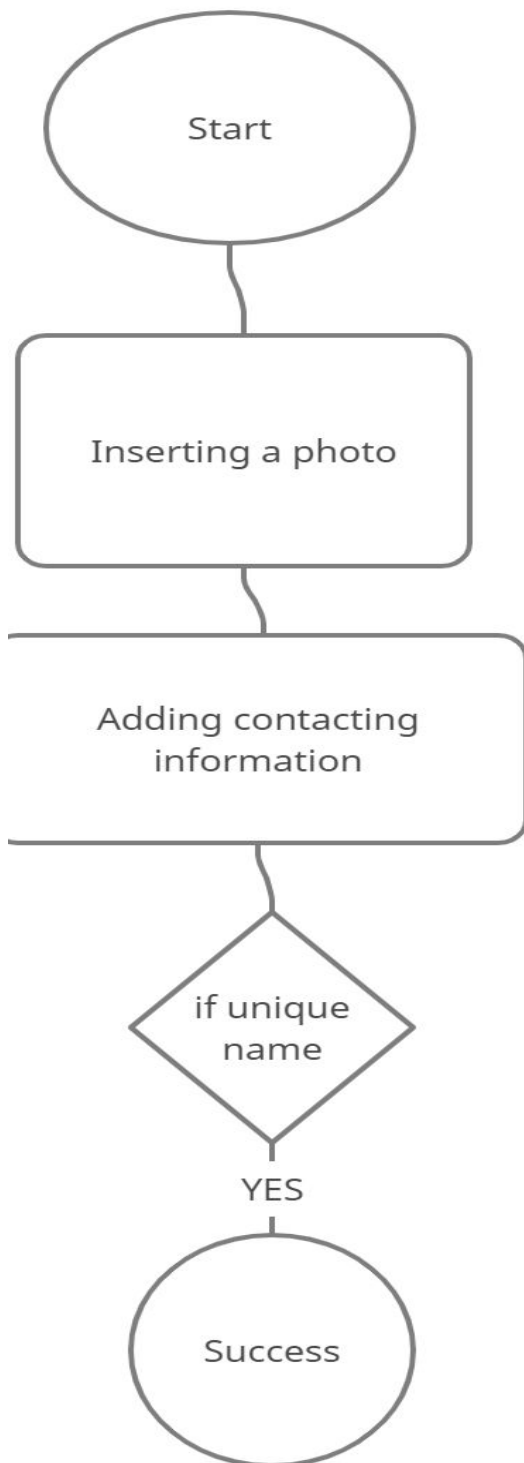Start

Adding new Package

NO

Checking if have Permission

Yes

Adding Prices and discounts

End

Loggin

Enter Username,Password

Not A valid Subscribtion

NO

Checking the database

YES

A specialized UI page

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Flowchart 1:

- Start
- Inserting a photo
- Adding contacting information
- if unique name
- YES
- Success

Flowchart 2:

- Start
- Checking attendance
- Enter member name
- Searching in the database
- NO
- Found the member
- Yes
- Successful Process

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Ownership Report

Item	Owners
UML Diagram	Zeyad
Sequence Diagram	Zeyad
Drawing Tools	Zeyad
UML Description	Amr
Sequence Description	Amr
Spell Checker	Amr
GitHub Configuration	Amr
Flow Chart	Amr
UI/UX Design	Amr,Zeyad
Database ERD	Zeyad
DVD	AMR