Fit-Superior

Final Year Project

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Area of specialization	

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*The candidates confirm that the work submitted is their own and appropriate credit has been given where reference has been made to work of others

Plagiarism Free Certificate

This is to certify that, I **Muhammad Adil** S/D of **Shafique Ahmad** , group leader of FYP under registration no **MITM-S19-005at** Information Technology Department, The Superior College, Lahore. I declare that my FYP proposal is checked by my supervisor and the similarity index is ____ that is less than 20%, an acceptable limit by HEC. Report is attached herewith as Appendix D.

Date: 28-02-2021 Name of Group Leader: Muhammad Adil Signature: _____

Name of Supervisor: Sanya Abdullah

Designation: Junior Lecturer

Signature: _____

HoD:

Signature: _____

Project Report

Fit-Superior

Change Record

Author(s)	Version	Date	Notes	Supervisor's Signature
Adil,Kainat,Faisal	1.0	05-04-2020	<Original Draft>	
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APPROVAL

PROJECT SUPERVISOR

Comments: _____

_____

Name:_____

Date:_____ Signature:_____

PROJECT MANAGER

Comments: _____

_____

Date:_____ Signature:_____

HEAD OF THE DEPARTMENT

Comments: _____

_____

Date:_____ Signature:_____

Dedication

I dedicate this project to ALLAH Almighty my creator, my strong pillar, my source of inspiration, wisdom, knowledge and understanding. He has been the source of my strength throughout this program and on His wings only have I soared. I also dedicate this work to my PARENTS; who always encouraged me all the way and whose encouragement has made sure that I give it all it takes to finish that which I have started. To my TEACHERS who have done all possible things to complete my project. Thank you. My love for you all can never be quantified. ALLAH bless you.

Acknowledgements

Many people have provided their contributions towards successful completion of this Study and we would like to express our gratitude to them without forgetting the Almighty God for directing my life

We would like to express special thanks of gratitude to our supervisor MS Sanya Abdullah who gave us the opportunity to do this project. We are also thankful to our parents and friends who helped us. We are not making this project just for sake of marks but to also increase our knowledge

Executive Summary

A shift in focus of the primary health care model towards technology-based prevention service delivery is essential to addressing the rising burden of obesity in young people. Technology-based health promotion using mobile health ('m health') has shown potential in obesity prevention, as well as other health priority areas of young people.

Fit-Superior will be the android based mobile application that would provide a platform for the users, where they don't have to go for variety of applications for different purposes regarding fitness and health. It will not only merge all workout plans, Diet plans, Trainers and statistics under one roof but will also focus on the customized diet plans according to users' budget. Moreover, to enhance the user safety, solution of connectivity with any doctor (or first aiders) will also be added to tackle worst situations.

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Chapter 1

Introduction

Chapter 1: Introduction

Obesity and other fat problems are currently one of the most common health issues that is increasing day by day. Nearly 30% of world population is either facing overweight problems or obesity issues. More than 60% of global disease burden will be attributed to chronic disorder associated with obesity by 2020 according to WHO. Obesity is also a cause of many non-communicable diseases (NCD) due to which globally 60-70% deaths occur. Pakistan being the 9th most obese nation in the world suffering from its epidemic, affecting all age group, especially in children and females as compared to men and its ratio will be doubled in coming years due to high carbohydrate intake and physical inactivity and other environmental factors. Given the ubiquity of smartphone ownership among young people in developed countries, m'health based services for young people may provide a feasible and acceptable option. Mobile Health is a component of electronic health (eHealth) and is defined as 'public health practice supported by mobile devices, such as smartphones and involves the use and capitalization on a mobile phone's core utility of voice and short messaging service (SMS)', as well as more complex functionalities such as smartphone applications ('apps') and internet access . Mobile Health interventions use functionalities of smartphone communication technology to facilitate behavioral change and health improvements and they offer a wide-reaching and potentially appealing health service delivery option. There is an emerging body of evidence for the use of m'health technologies for obesity prevention and management in adolescents and young adults.

The main Challenges for health and fitness application includes:

1. Diet — Creating health and fitness app then focus on diet chart shows the diet name and their information.
2. Complex diet plan (i.e kito) as well as simple diet plan (according to budget).
3. Create diet for average person or people who can afford that.
4. Calories calculators.
5. Proper workout plans with animation.

6. Direct Arrangement or linking of user with not only just trainers but also for the facilitators of first aid in case of any mishap during different exercises.

All aforementioned features would be managed in Fit-Superior App to make it suitable for the average people as well.

1.1. Background

As everyone know that this is the era of technology, like we we use websites applications for different purpose. In order for searching of different exercises, people have to visit different application for keep them selves fit . To achieve the level of one's dream fitness, most of the users have to use multiple apps to for different purposes. tracking fitness activity, workout, exercises & meal planning. This results in losing interest or motivation as it becomes very cumbersome to use different apps and to keep track of all of them.

That why we are going to design a android base mobile application that would provide a platform for the users, where they don't have to go for variety of applications for different purposes regarding fitness and health. We are not only intended to merge all workout plans, Diet plans, Trainers and statistics under one roof but also to focus on our specific feature which increases the user value

1.2. Motivations and Challenges

As a Students of Information technology we have grip in Technology make Apps & Websites for different Purpose.

My knowledge of this field at the start of the project was casual. As this is a subject I am interested in making my career in, measuring the 'quality' of images and how this can be affected by the right or wrong choice of a file format seemed a natural choice of study which I knew would be both challenging and interesting.

From the theory aspect, I have done much research into the principles of different apps image storage and its related areas including compression and decompression, color spaces and conversion between color systems, image displaying, conversion between file formats and some advanced techniques used to enhance compression ratios and allow such features as real-time full-motion video.

1.3. Goals and Objectives

Fit-superior provide users with a set of exercises along with demonstration on how they should be performed. This **app** act as personal trainer in your smartphone and you can track everything from your workout schedule to the amount of calories you burned in a day.

Fit-superior is with a mission to improve the health and well-being of its customers and the community by providing health and fitness services through our application.

Our vision is to be the premier medically-based health and wellness facility providing advanced, collaborative programming centered on the whole-health and well-being of our community and our region. We will be known for an exceptional trainer experience, with the highest quality fitness services

1.4. Literature Review/Existing Solutions

Multiple famous Android Applications related to Fitness and Health are working in market with different features. Each of them has their own specialties. Some of them are lists below with a brief description.

(REF)

https://freeappsforme.com/bodybuilding-apps/

1- Fitness & Bodybuilding:

Fitness and Bodybuilding is the application for Android that intends to achieve the colossal results with the selected workouts and create the body of your dreams.

2- Freeletics Bodyweight

This application offers a variety of exercises depending on the level of person's physical fitness and activity. User can use a free version of the app or the services of a personal trainer

1.5. Gap Analysis

To achieve the level of one's dream fitness, most of the users have to use multiple apps to for different purposes. tracking fitness activity, workout, exercises & meal planning. This results in losing interest or motivation as it becomes very cumbersome to use different apps and to keep track of all of them. Moreover, all these health and fitness app only focus on workout but found lack focusing on diet, sleep and injury specifically or collectively.

1.6. Proposed Solution

Fit-Superior will be the android based mobile application that would provide a platform for the users, where they don't have to go for variety of applications for different purposes regarding fitness and health. We are not only intended to merge all workout plans, Diet plans, Trainers and statistics under one roof but also to focus on our specific feature which increases the user value. That is, providing customized diet plans according to users' budget and also the solution of connectivity to any doctor (or first aiders). This would be our novelty of the project from the existing fitness apps.

1.7. Project Plan

Fit-Superior will be the android based mobile application that would provide a platform for the users, where they don't have to go for variety of applications for different purposes regarding fitness and health. In this project we work with the proper schema and interface. Like we divided modules in different categories

1-Access

Admin

- can Login by id
- Can Add customer
- Can Remove customer
- Can Monthly Report
- Can Fee manage
- Can Access member list
- Can access Member detail
- Can access staff
- Can access schedule
- Can messaging

Customer

- Login Throw id

2- Exercise

- Beginner Level
- For fat body
- For Muscular
- Exercise with proper form (bench press, squat, deadlift)
- HD exercise videos
- Comprehensive equipment (barbell, dumbbell, machine, etc)

- Exercise category (core / abs, lower body / leg, chest, shoulder / deltoid, back, arm / biceps / triceps, cardio)
- Exercise instruction and muscle group
- Opportunity to add as many exercises of your own as you wish
- Track body weight for weight loss and muscle gain.

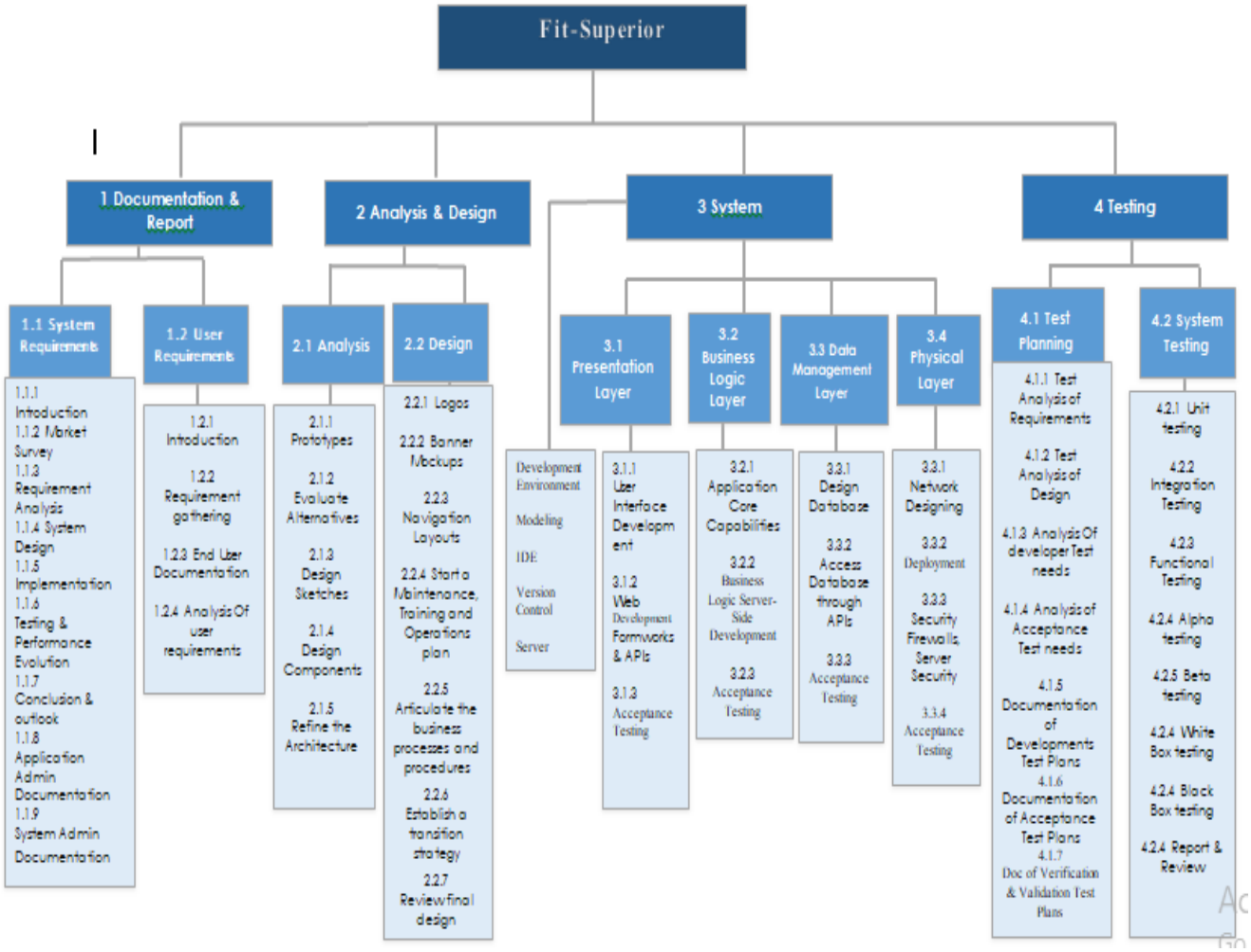
3-Training

- Workout routine
- Personal trainer
- Diet plan
- Suitable supplement

4-ststistic

- Progress
- Opportunity to add the results of the exercise performed
- Opportunity to add the results of measurement of your body
- Calendar of workouts

1.7.1. Work Breakdown Structure

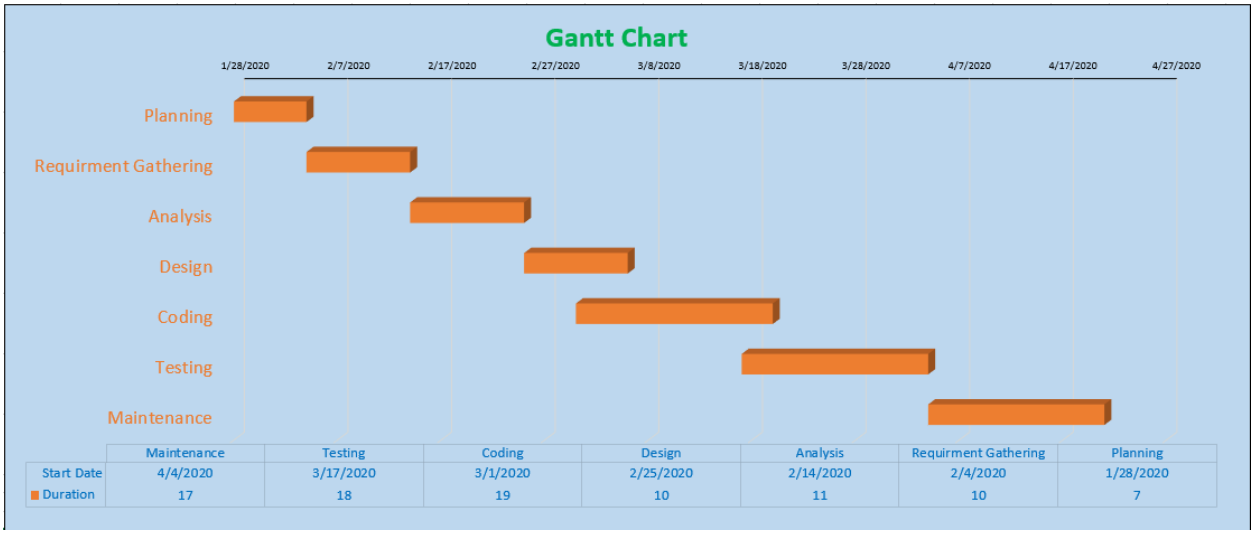


1.7.2. Roles & Responsibility Matrix

WBS #	WBS Deliverable	Activity #	Activity to Complete the Deliverable	Duration (# of Days)	Responsible Team Member(s) & Role(s)
1	Requirements and Analysis		• Interviews • Research • Competitors Analysis • Purify feasible requirements.	15 Days	Team
2	Documentation		• Document each and everything from the beginning of the	40 Days	Team

			project to the end. • User Document		
3	System Design and Database Design		• Design Logo, Icons, Header, Footer, Slider. • Implement design for responsive website. • Design and develop a consistent Database.	30 Days	Team
4	Coding		• HTML • CSS • PHP	40 Days	Team
5	Testing		• Test every single module. • Integration test for every module. • Check performance, load testing through tools.	15 Days	Team
6	Implementation		• Developing Prototype	15 Days	Team

1.7.3. Gantt Chart



1.8. Report Outline

We are creating a health base system (Android mobile application) that would provide a platform for the users, where they don't have to go for variety of applications for different purposes regarding fitness and health.

Chapter 2

Software Requirement Specifications

Chapter 2: Software Requirement Specifications

2.1. Introduction

Obesity and other fat problems are currently one of the most common health issues that is increasing day by day. Nearly 30% of world population is either facing overweight problems or obesity issues. More than 60% of global disease burden will be attributed to chronic disorder associated with obesity by 2020 according to WHO. Obesity is also a cause of many non-communicable diseases (NCD) due to which globally 60-70% deaths occur. Pakistan being the 9th most obese nation in the world suffering from its epidemic, affecting all age group, especially in children and females as compared to men and its ratio will be doubled in coming years due to high carbohydrate intake and physical inactivity and other environmental factors. Given the ubiquity of smartphone ownership among young people in developed countries, m'health based services for young people may provide a feasible and acceptable option. Mobile Health is a component of electronic health (eHealth) and is defined as 'public health practice supported by mobile devices, such as smartphones and involves the use and capitalization on a mobile phone's core utility of voice and short messaging service (SMS)', as well as more complex functionalities such as smartphone applications ('apps') and internet access [38]. Mobile Health interventions use functionalities of smartphone communication technology to facilitate behavioral change and health improvements and they offer a wide-reaching and potentially appealing health service delivery option. There is an emerging body of evidence for the use of m'health technologies for obesity prevention and management in adolescents and young adults.

The main Challenges for health and fitness application includes:

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All aforementioned features would be managed in Fit-Superior App to make it suitable for the average people as well.

2.1.1. Purpose

Fit-Superior will be the android based mobile application that would provide a platform for the users, where they don't have to go for variety of applications for different purposes regarding fitness and health. We are not only intended to merge all workout plans, Diet plans, Trainers and statistics under one roof but also to focus on our specific feature which increases the user value. That is, providing customized diet plans according to users' budget and also the solution of connectivity to any doctor (or first aiders). This would be our novelty of the project from the existing fitness apps

The main purpose of this application is to entertain customers with online services they can do exercised workout by using this app.

2.1.2. Document Conventions

This document is made with standard rules of documentation for System Requirement Specification Documents. to create Fit-superior application and to give online workout routine

2.1.3. Intended Audience and Reading Suggestions

This report is for developer, Project testers and users.

This Software Requirements document is intended for: −

Developers who can review project's capabilities and more easily understand where their efforts should be targeted to improve or add more features to it (design and code the application – it sets the guidelines for future development). −

Project testers can use this document as a base for their testing strategy as some bugs are easier to find using a requirements document. This way testing becomes more methodically organized.

End users of this application who wish to read about what this project can do.

2.1.4. Product Scope

The Gym's goals are to allow their members to reach the highest level of fitness, while providing a safe and comfortable environment to live life to the fullest, healthiest potential. With that goal in mind, we are determined to create a top quality gym. We will have the highest degree of equipment. This application will provide every facility to their customers and help them to find every information related to fitness.

The app is mainly for those who plan to lose or gain weight and require a planned medium for the same. The intended audience of this document is anyone who needs a platform where they find a sustainable and clear plan with videos to lose/maintain/gain weight

2.1.5. References

2.2. Overall Description

2.2.1. Product Perspective

Fit-Superior will be the android based mobile application that would provide a platform for the users, where they don't have to go for variety of applications for different purposes regarding fitness and health.

2.2.2. Product Functions

1-Access

Admin

- can Login by id
- Can Add customer
- Can Remove customer
- Can Monthly Report
- Can Fee manage
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- Personal trainer

- Diet plan
- Suitable supplement

4-ststistic

- Progress
- Opportunity to add the results of the exercise performed
- Opportunity to add the results of measurement of your body
- Calendar of workouts

2.2.3. User Classes and Characteristics

Admin

Admin controls and manage the overall performance of system and maintain Database who has full rights on administrator.

Customer

Login Throw id

Trainers

Trainers can add exercises, add diel plan exercise routine for beginners,

2.2.4. Operating Environment

The software will operate with the following software components and applications: The software being developed will be running under Windows and embedded operating system. The Hardware require to access is a computer or mobile with an internet.

Operating Environment: Android Mobile/System.

Database: Latest SQL Server

Platform: Android studio

2.2.5. Design and Implementation Constraints

The project intends to follow SCRUM (AGILE METHODOLOGY) for its development. Agility helps in time boxed iterative development, suggests adaptive planning and promote incremental

delivery. To deal with changing requirements and yield frequent and small software increments which can be adjusted, documented and built on the project intends to use SCRUM as the process model.

- Customer's details save into the database.
- Fit-superior Application will work 24/7.
- Customers may access from any android system that has Internet connection.
- Customers must have their login account to start workout.

2.2.6. User Documentation

Customers must know details of our products and know how to use it. Customer should use android system for login this system

- how to use this App
- features of this app
- tips and tricks of this system
- how to resolve common problems with this system

2.2.7. Assumptions and Dependencies

It is assumed that compatible software should be used before the system is installed and tested.

It is assumed that Gym Terminal have the enough trained staff to take care of the system.

We will provide high level service for android application to our Users. But some risk is effect on the system like: Inappropriate skills and experience. Working together as a team we face health factor of team like (illness issues) that affect us to complete our project within the specified time, but we are committed to our work and we will do our best and make it happen.

2.3. External Interface Requirements

2.3.1. User Interfaces

The opening scene of the application will have options like login sign-up, sidebar with different features

The project entitled gym management system is an online platform that will cater the transactions and records of a gym facility center.

The target of this article is to provide a guide on the development of the gym management system specifically in the front-end part of the project. The main objective is to provide you with the basic concepts on what are the features that should be included in the development of gym management system. In addition, we have also included the form designs or user interfaces of the project. The following form designs and user interfaces were designed and developed in Android studio (xml java),

Application will be accessed through a Browser Interface. The interface would be viewed best using 1024 x 768 and 800 x 600 pixels' resolution setting.

We will take requirement from user and basic needs of customer related to this system . The Gym Management System reduces all the complexity of conventional method which is a combination of the folders, spreadsheets, the emails and for the management of members information and payment info.

2.3.2. Hardware Interfaces

The application will be accessible through the touch screen on an Android device. The alarm portion of the application will access the android clock and alarm system already in the device Users can use this application by using the android system with specifications of:

- Touch Screen- The app will access the touch screen of the device for taking inputs.
- Audio Jack- During the time of playlist while having the workout and video lectures where user will be trained, the audio jack will be used.

- System Clock: For alarm and the time calculations during the workout, the app will use the system clock.
- OS: Android 4.1 and up
- Ram: minimum 2GB
- Processor : Quad core

If users will use better than that hardware system then they will get better performance.

2.3.3. Software Interfaces

Internet: App will use the internet data and may cost the user for the same. However, user can opt out this.

In this software is main point….

The software should be good and updated that have new latest version. And care about all thing data base should also have new version not copyright make all product is original and activate. Attach all hardware and check they all work properly and in this we attach barcoded and scanner check it work on software all function and operation work properly. The software and app related to internet and check all new availability and new updating of this software. First developer will test this app properly and check the error/bug that uncertainty occurs then find it and solve i\the problem properly.

2.3.4. Communications Interfaces

This application will not communicate with other users using the same application. This app however will communicate with the android device in ways like the alarm and time.

The communication between the different parts of the system is important since they depend on each other. However, in what way the communication is achieved is not important for the system and is therefore handled by the underlying operating systems for the app portal.

2.4. System Features

These features are for users.

- Login

- Chose exercise
- Trainer option
- Statistic
- Share training with friends

2.4.1. System Feature 1

Trainer module

- The system will allow the admin to view the particular trainer detail by using the search criteria that are provided which is trainer ID, or trainer name in the trainer detail form.
- The system will allow the admin to view all the trainer details.
- The system will allow the admin to add trainer detail
- The system will allow the admin to edit the trainer information
- The system will allow the admin to cancel trainer information when the trainer resign or expired.

Report module

- The system will allow the admin to view the monthly, weekly, and daily report.
- Manager needs to select the month and trainer type when he or she wants to view the report.
- The system will allow the admin to generate report.

Login module

- The system will allow the Users to log into the system with their own account.
- After login in the system, the system will access relevant data to user based on their username and password.
- The login module also allows the user to change to password for the security purpose.

2.4.1.1. Functional Requirements

Functional requirement defines a function of a system or its component. A function is described as a set of inputs, the behavior, and outputs.

Descriptions of data to be entered into the system. Following data will be entered to the system by the relevant users.

- User registration data
- Payments
- Medical reports
- Machine/ exercise data
- Maintenance records

2.4.2. System Feature 2

Account module

- The system will allow the Administrators to create account for users
- The system will allow the administrator to delete account of users
- The system will allow the administrator to activate users account
- The system will allow the administrator to deactivate user account

Health_status module

The system will allow the admin to add Health_status of trainer.

The system will allow the admin to edit Health_status of trainer.

The system will allow the admin to delete Health_status of trainer.

The system will allow the admin to view Health_status of trainer.

2.4.2.1. Functional Requirements

Functional requirements are the primary requirements that are to be fulfilled by the portal Their fulfillment allows the user to use the site. The proposed system provides

features for clients and admin The following subsections illustrate functional requirements to be fulfilled by the proposed system.

Descriptions of operations performed by system

- User registration
- Payments
- Suggestion of schedules for each individual.
- Keeping maintenance records

Descriptions of system reports or other outputs Following reports can be generated by the system.

- Pending payments
- software maintenance report
- Health report
- Current usage of the gym
- Attendance

Who can access the system System is designed with three user levels

- Member
- Trainer
- Administrator

2.4.3. System Feature 3

Schedule module

- The system will allow the gym Instructor to add schedule or detail exercises of the trainer
- The system will allow the gym Instructor to edit schedule or detail exercises of the trainer
- The system will allow the gym Instructor to delete schedule or detail exercises of the trainer

- The system will allow the gym Instructor to view schedule or detail exercises of the trainer

Plan/membership type module

- The system will allow the Manager to add new plan details the plan details consists membership ID, membership name , days , and Rates .
- The system will allow the Manager to edit plan details.
- The system will allow the Manager to delete plan details.
- The system will allow the Manager to view plan details.

Payment module

- The system will allow the admin to add trainer payment
- The system will allow the admin to edit trainer payment
- The system will allow the admin to delete trainer payment
- The system will allow the admin to view trainer payment
- The system will allow the Trainer to make their own payment by scanning QR code
- The system will allow the Trainer to view their own balance

2.5. Other Nonfunctional Requirements

2.5.1. Performance Requirements

The system can provide ease both at admin level or local level and we as a team focus on program logic to done the require task in systematic disciplined and in quantifiable approach. With a specific end goal to keep up a worthy speed at most extreme number of transfers permitted from a specific client will be any number of clients and can get to the framework whenever. Likewise, associations with the servers will be founded on the criteria of properties of the client like his area, and server will work 24X 7 times

2.5.2. Safety Requirements

The system help to maintain the privacy of user by best encryption method techniques.
Its exchanges, logged data, refreshes, client exercises are reinforcement

2.5.3. Security Requirements

Any adjustment (insert, update and delete) for the Database might be synchronized and done just by the System manager.
The System shall not disclose and personal information about the costumers. The Application shall not grant Access to an unauthorized user. The Application shall not communicate with any other devices or servers while in use by the user.

2.5.4. Software Quality Attributes

In this we check the quality of the software mean that the software performance and work properly for user and clients and specially for admin

Friendly:

In this we check the verifiable mean that software should be user friendly. The system become user friendly when we add some extra function, drop down menu add some screen shot radio button and dialogue box and beautiful home page that become user friendly for our software.

Clearness:

So, we will check the software clearness our software should be clear and concise mean that when we single click on our software or app it should be open in 5 sec not more time exact time is only 5 sec that way our system is clear concise.

Accuracy:

In this lack of requirement accuracy is less that why because the all requirement is not so lengthy and a minimum one requirement is only one built. Complete information:
In this we are giving all and complete information and requirement from user and it in this user said when a client visit our application they do not work in this then automatically close after 5 sec.

Performance:

In this all performance of software is exactly said mean that App page is click single not double and tell all effect that we use in the software or app. Cut to cut talk any tell everything to user about its software.

Simple:

The SRS will be very simple anybody can read it and check how it they work that why we use tractability mean that we give all requirement to a unique number and that we find every requirement which we needed.

Bounded.

In this will not be bound.

Efficiency:

In this SRS all requirement is singly explain not talk about any efficiency of that software.

Not repeated requirement again and again this will disturb the software maintainence.

Reliability

Requirements about how often the software fails. The measurement is often expressed in MTBF (mean time between failures). The definition of a failure must be clear. Also, don't confuse reliability with availability which is quite a different kind of requirement. Be sure to specify the consequences of software failure, how to protect from failure, a strategy for error detection, and a strategy for correction.

Useability

Requirements about how difficult it will be to learn and operate the system. The requirements are often expressed in learning time or similar metrics.

Availability

The framework is accessible amid 24 hours of the day.

Maintainability

The framework should give the ability to go down the Data.

Portability

Client can sign into the framework whenever.

Privacy:

Similar we will apply some term and condition and privacy for this application

2.5.5. Business Rules

If we do some work and start our business market have some rule and regulation in this software also have some rule and regulation first the software is attach FTP and HTTPS to make your software secure and not do any work that market fall down butt your company up.

There are mostly two kinds of clients utilizing the framework, for example,

- User
- Administrator

2.6. Other Requirements

Operating System: Android 4.1 and up

System Software: Android studio, MYSQL, Adobe Photoshop, MS Word, MS Visio.

Minimum Hardware: Processor Quad core, 2 GB RAM.

Chapter 3

Use Case Analysis

Chapter 3: System Analysis

A use case diagram describes how a system interacts with outside actors. It is a graphical representation of the interaction among the elements and system. Each use case representation a piece of functionality that a system provides to its user. Use case identifies the functionality of a system.

3.1. Use Case Model

Actor:

is a person, or external system that plays a role in one or more interaction withthe system. And represented with:

Use case:

Describes a sequence of actions that provides something of measurable valueto an actor and is drawn as a horizontal ellipse

System boundary

Indicates the scope of the system project. Anything within the boxrepresent functionalities in side in scope.

Actor identification

In the use cases an actor interact with the system to perform a piece of meaningful work that helps them to achieve a goal and has access to define their overall role in the system and the scope of their action. Depending on the above explanation actors in this system are the following:

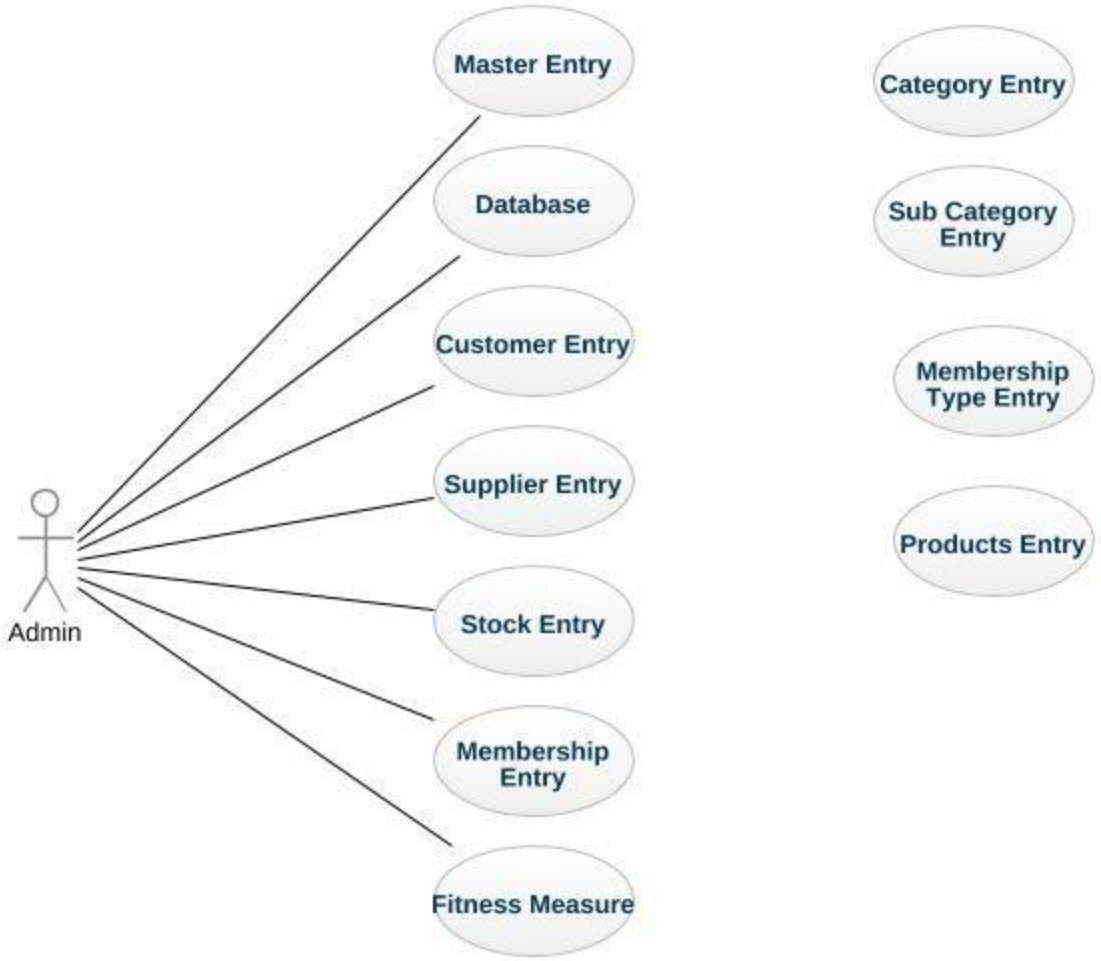
Admin
: The administrator manages the overall system

Trainer
: The trainer view payment, expiry, schedule, and equipment information online and make payment.

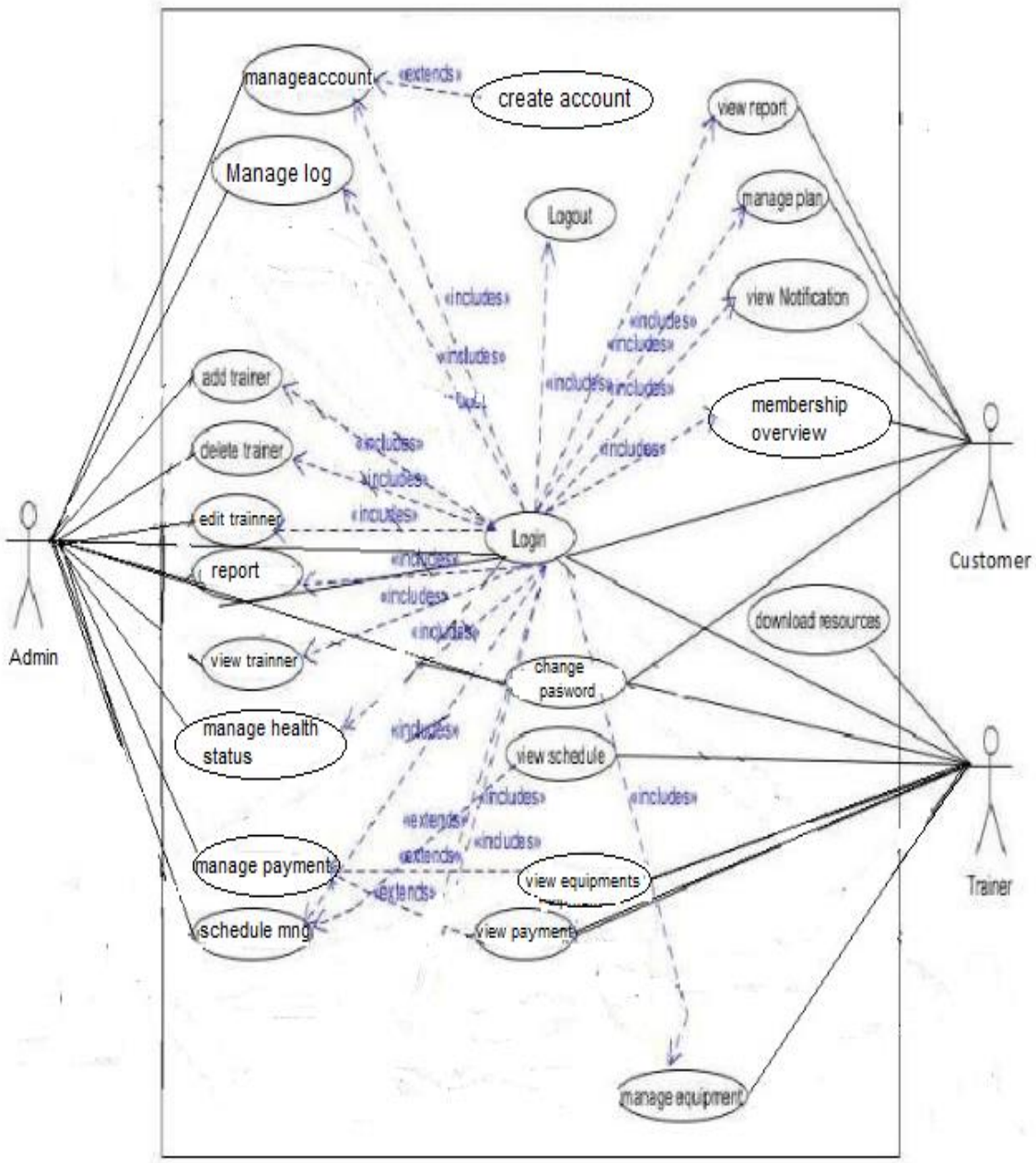
Customer:
Trainer login throw I'd

Use case identification
Each Use Case describes the functionality to be built in the proposed system, which can include another Use Case's functionality or extend another Use Case with its own behavior. The most important and basic use cases of this system are the following:-

- Login
- Manage log details
- Manage account
- View notification or alerts
- View comment
- Generate report
- Manage plan
- Manage payment
- Manage trainer
- schedule
- Mange equipment
- View report
- Prepare resources
- Download resources
- Instructing trainers
- Logout


Master Entry
Database
Customer Entry
Supplier Entry
Stock Entry
Membership Entry
Fitness Measure
Admin
Category Entry
Sub Category Entry
Membership Type Entry
Products Entry

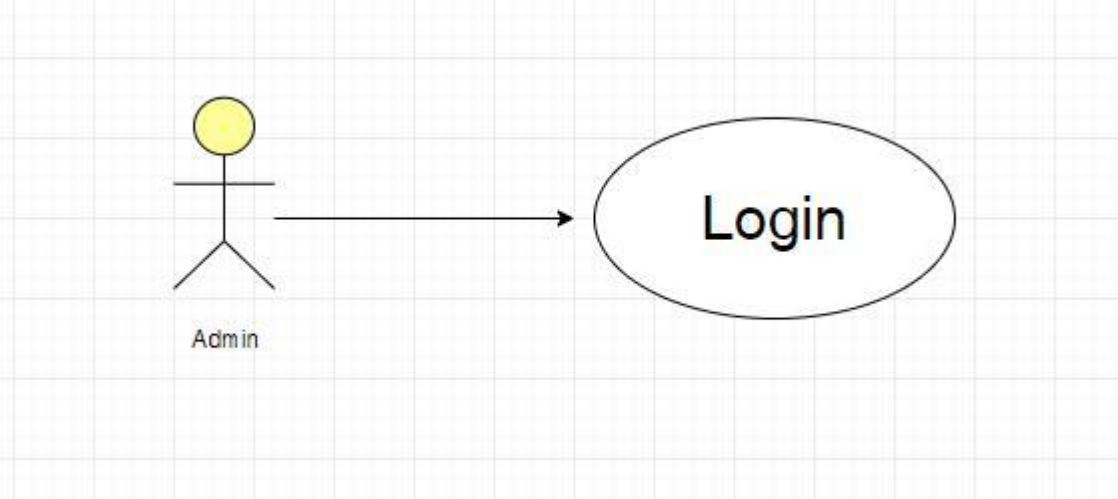
3.2. Fully Dressed Use Cases



Use Case Description for create account

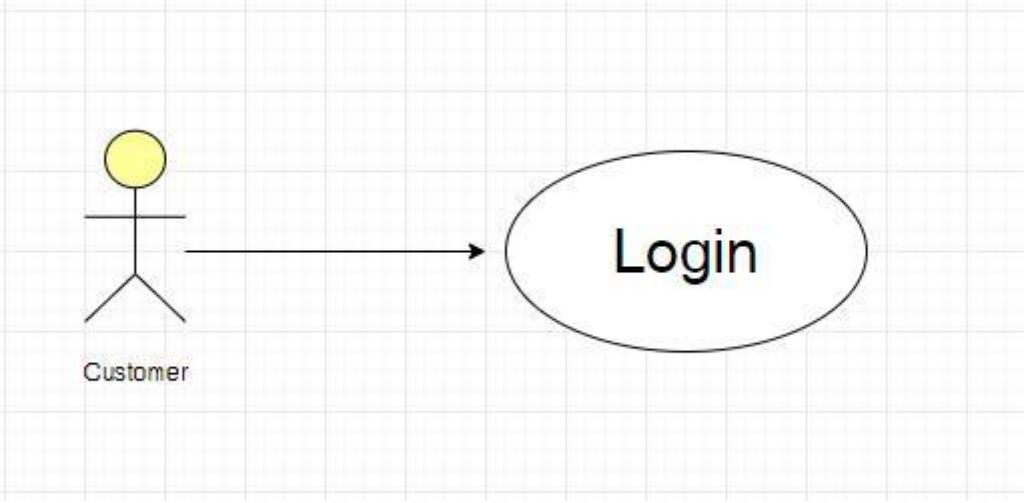
Use Case Name	Create Account
Use Case ID	UC-01
Description	Used to create Account for users of the system to login to the system
Actor	Admin
Pre-condition	Admin should be filled the required form detail user
Basic course of action	1. The Admin select create account link 2. System display create Account page 3. System validate info 4. Admin filled the required info and submit it
Post-condition	The Account is Successfully created.

Use Case Description for login



Use Case Name	Login
Use Case ID	UC-02
Description	User need to login into system to perform task.
Actor	Admin, Trainer, Customer.
Pre-condition	User should have an account to login

Basic course of action	1. The user click login link 2. System display login screen 3. System verify username pass 4. System display main menu
Post-condition	The user is successfully login in to system



Use Case Description for add trainer

Use Case Name	Add Trainer
Use Case ID	UC-03
Description	This use case is to allow user to add trainer to new system.
Actor	Admin
Pre-condition	User should login in to the system to add trainer.
Basic course of action	1. The user select add trainer link 2. System display add new trainer form 3. User enter the detail of trainer 4. System verify the data that actor enter 5. System add trainer and update database successfully
Post-condition	The new trainer add the system is successfully added

Use Case Description for add new plan details

Use Case Name	Add plan
Use Case ID	UC-04
Description	The use case allow admin to add plan.
Actor	Admin
Pre-condition	Admin should login in to the system to add plan.
Basic course of action	1. The admin select add plan link 2. System display add new plan form 3. User enter the detail of plan 4. System verify the data that actor enter 5. System add plan and update database successfully
Post-condition	The new plan add the system is successfully added

Use Case Description for add payment

Use Case Name	Add Payment
Use Case ID	UC-05
Description	The use case allow user to add payment.
Actor	Admin, Trainer.
Pre-condition	user should login in to the system to add payment.
Basic course of action	1. The user select add payment link 2. System display add new payment form to user 3. User enter the detail of payment 4. System verify the data that actor enter 5. System add payment and update database successfully
Post-condition	The new payment add the system is successfully added

Use Case Description for membership overview

Use Case Name	Membership view
Use Case ID	UC-06
Description	The use case allow admin to view overview of membership detail .
Actor	Admin.
Pre-condition	admin should login in to the system to view overview of membership detail.
Basic course of action	1. The admin select membership overview link 2. System display membership overview form 3. Admin enters the ranges of date and month that need to overview detail. 4. System will display number of trainer ,amount of incomes of paid from trainers in that rang
Post-condition	The member overview display successfully.

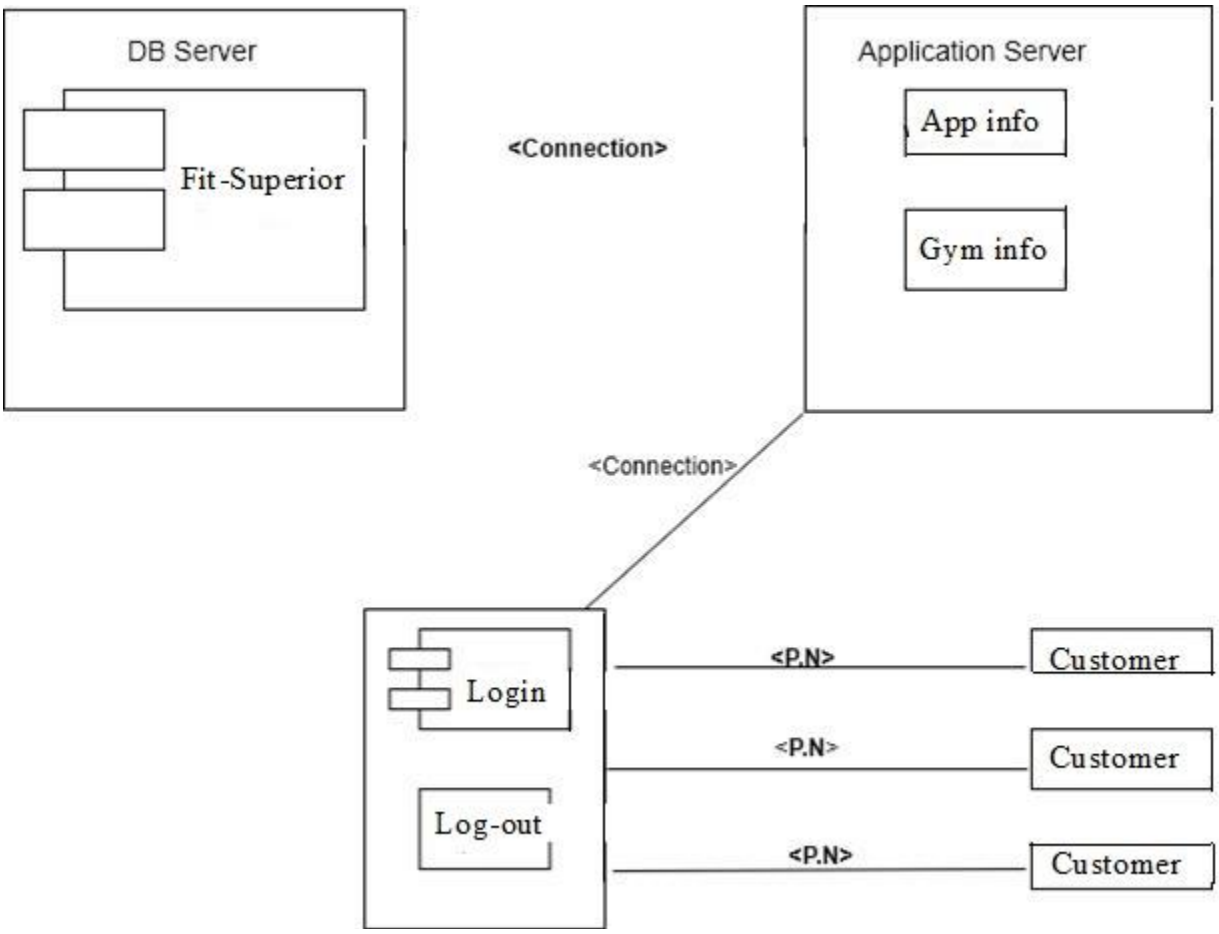
Chapter 4

System Design

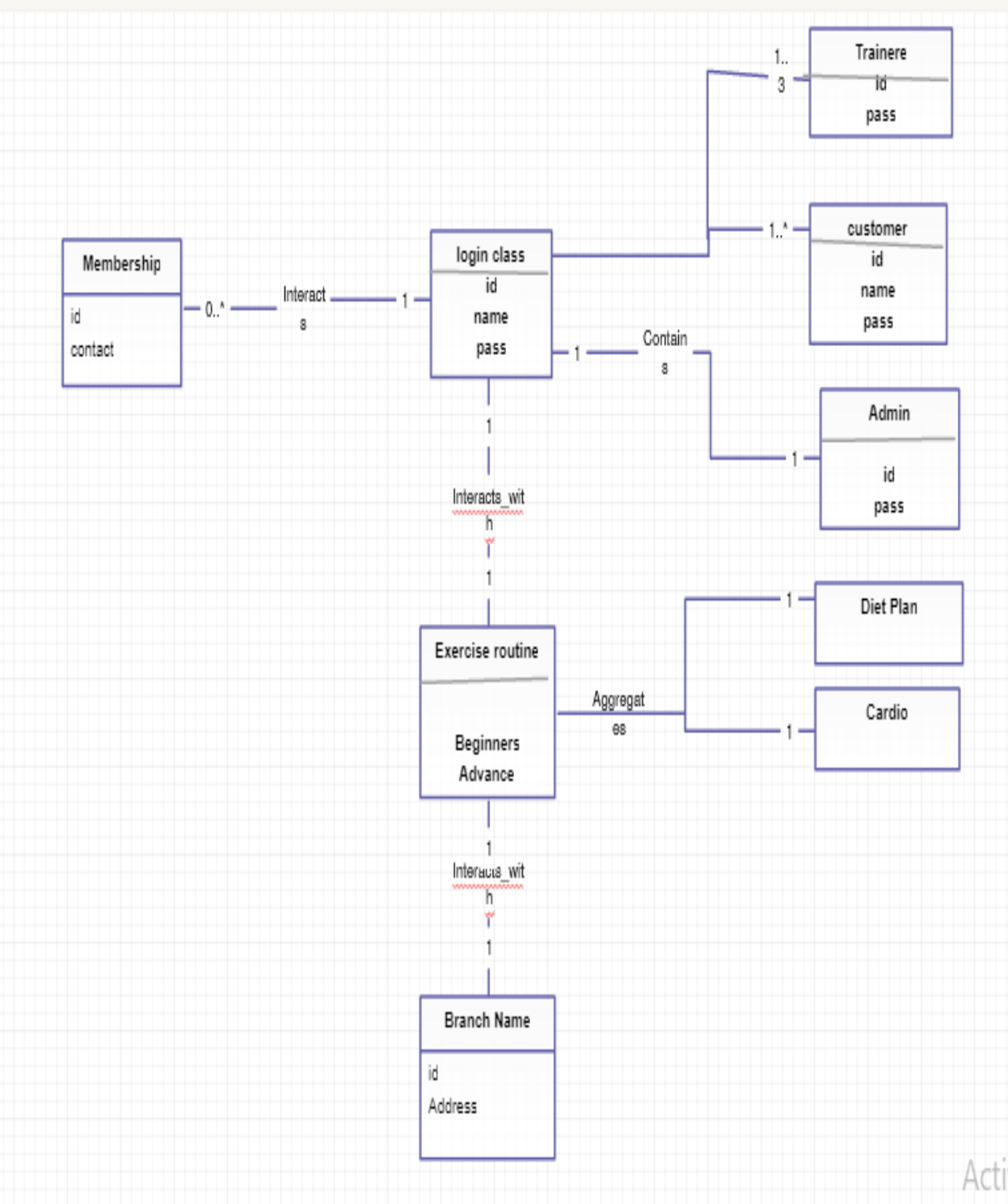
Chapter 4: System Design

This chapter describes about the system design. This will include the different types of diagrams. These are different types of diagrams which we are using for detailed design of our project “Fit-superior”.

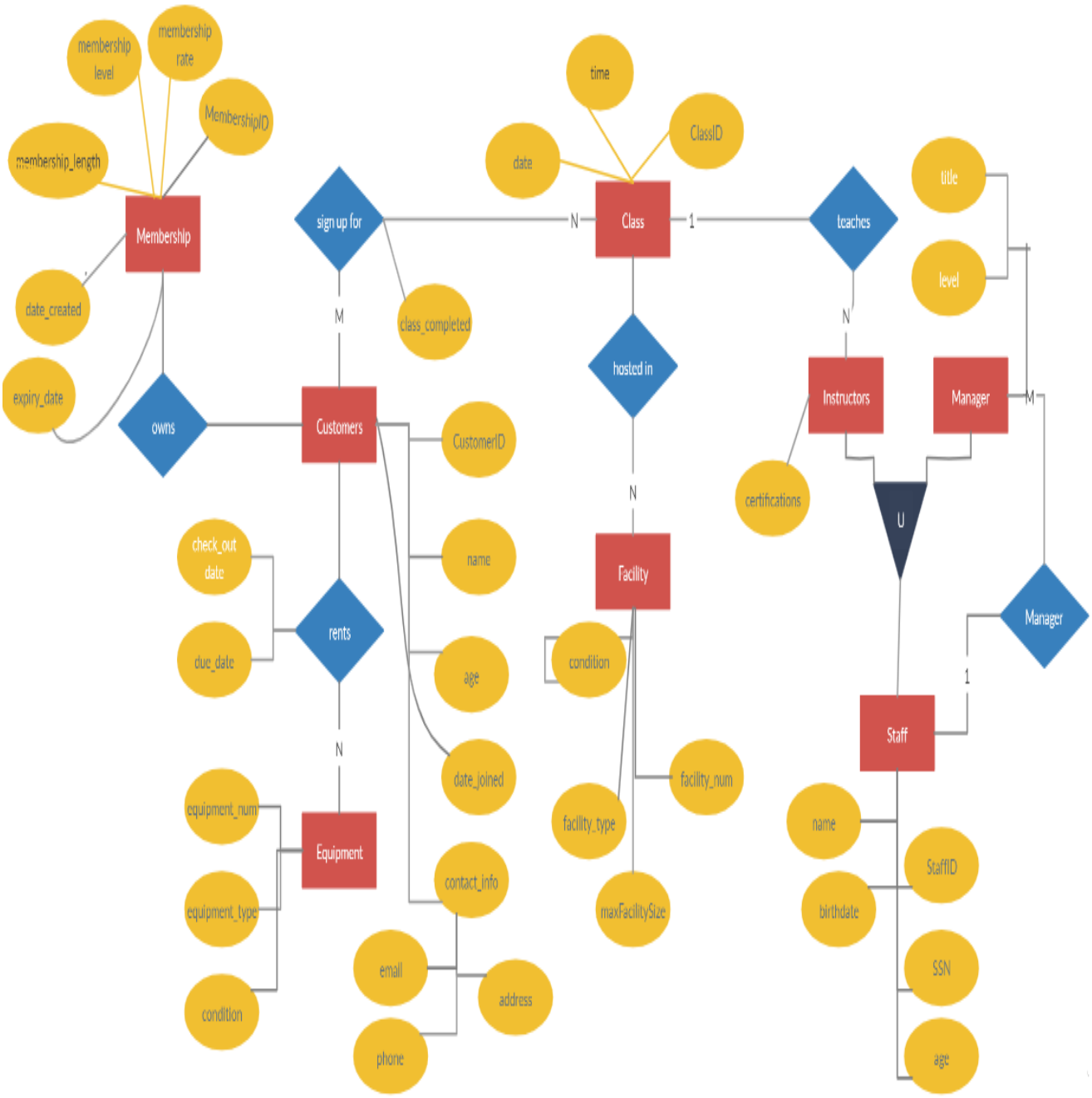
4.1. Architecture Diagram



4.2. Domain Model

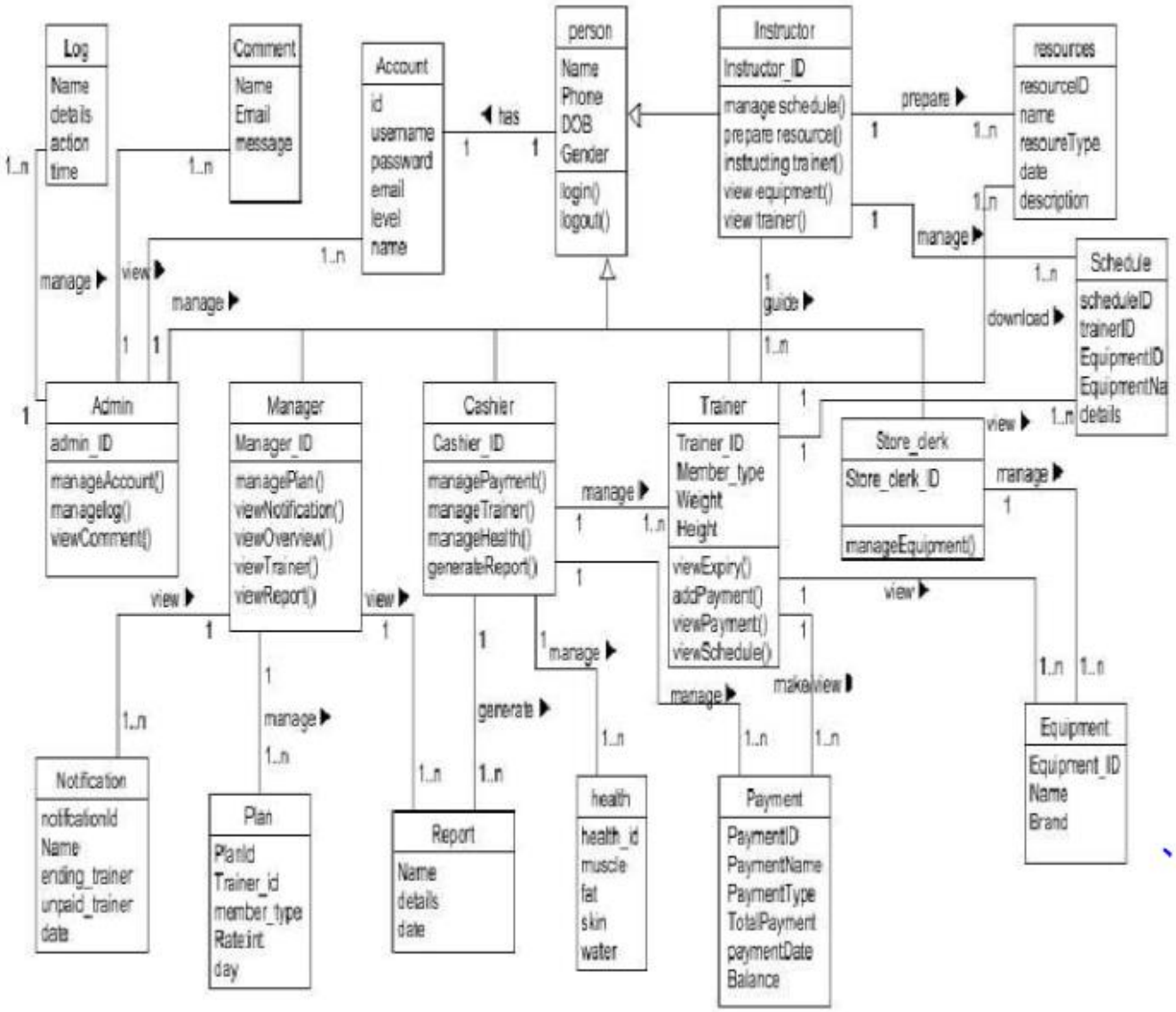


4.3. Entity Relationship Diagram with data dictionary



4.4. Class Diagram

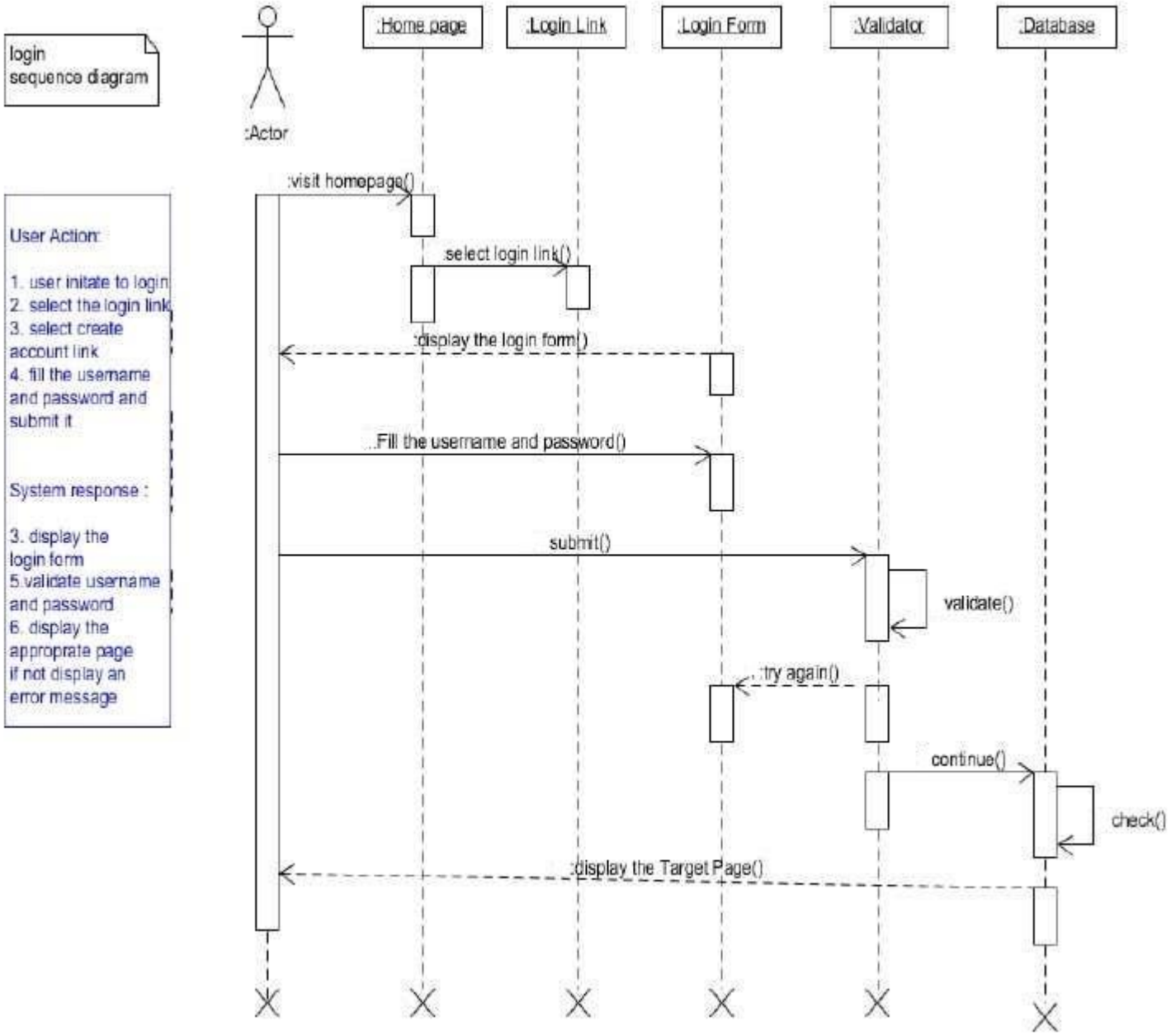
Class diagram is static model that shows the classes and the relationships among classes that remain constant over the time. Class is the main building block of class diagram, which stores and manages information in the system. In the phase of analysis class modelling we just create classes with their attributes, methods, relationship, multiplicity and Role



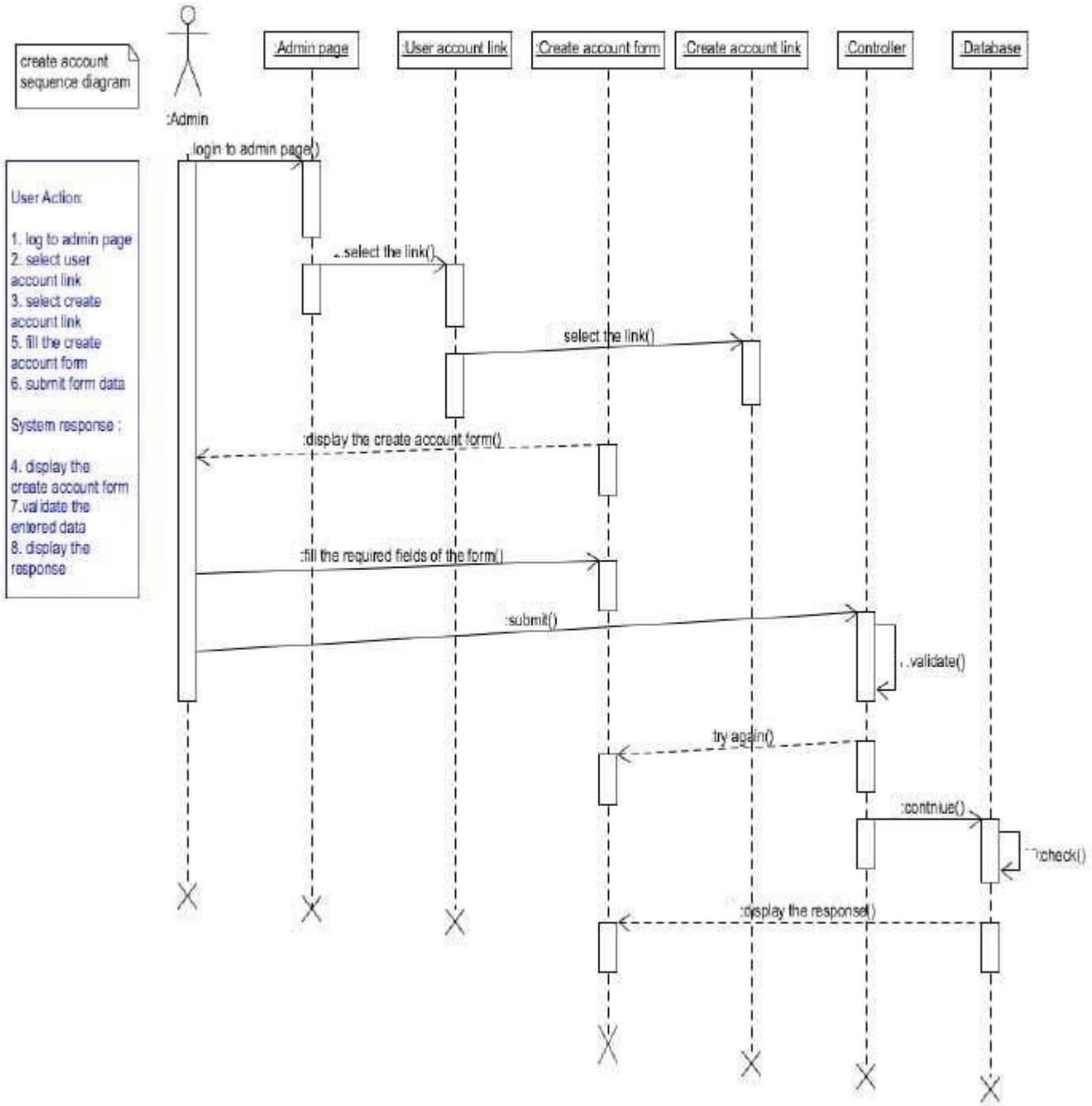
4.5. Sequence / Collaboration Diagram

Sequence diagrams model the dynamic aspects of a software system. The emphasis is on the sequence of messages rather than relationship between objects. Sequence diagrams provide more detail and show the message exchanged among a set of objects over time. Sequence diagrams are good for showing the behavior sequences seen by users of a diagram shows only the sequence of messages not their exact timing. Sequence diagrams can show concurrent signals. A sequence diagram shows object interactions arranged in time sequence

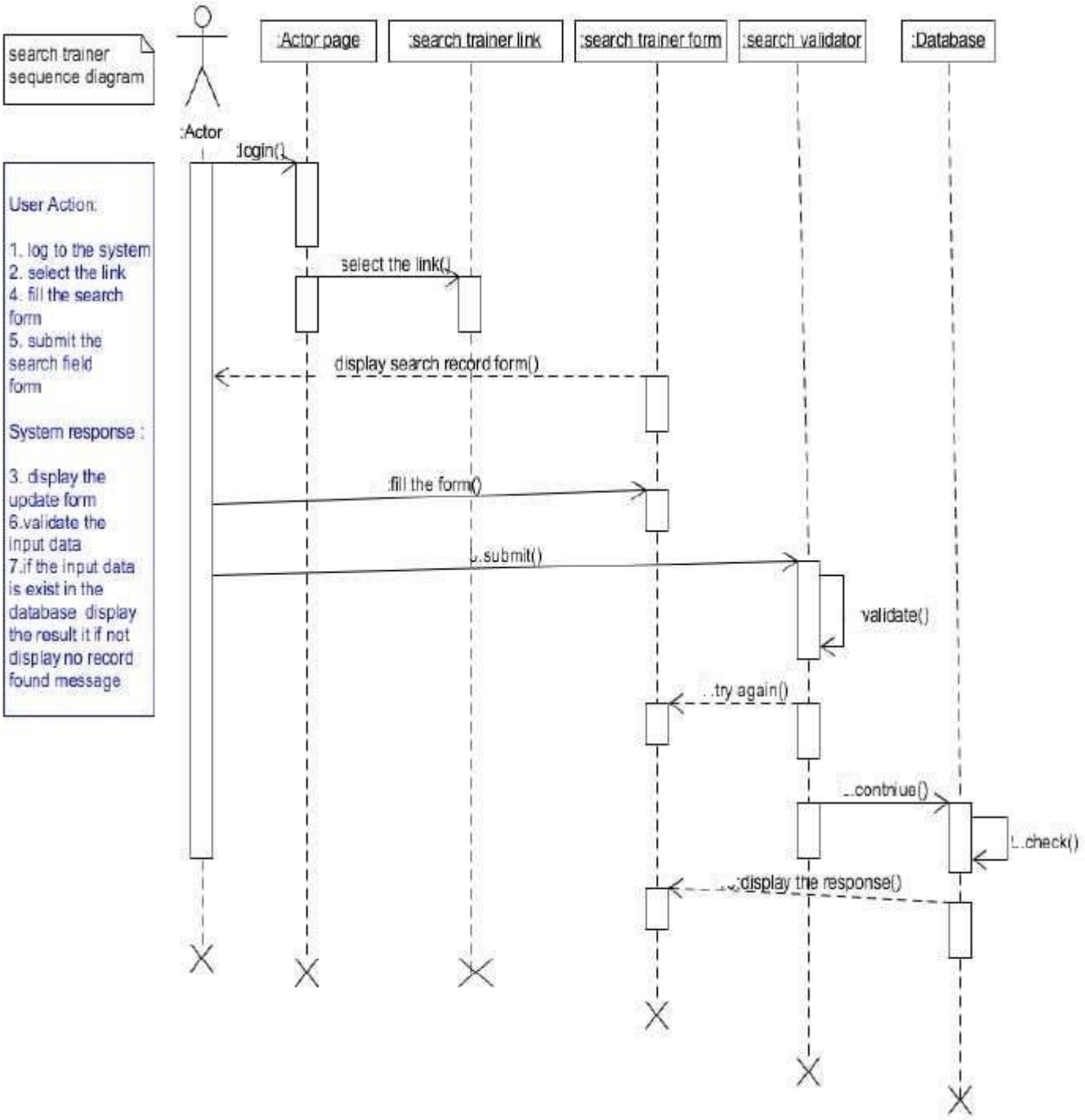
Login sequence diagram



Create account sequence diagram



Search Trainer sequence diagram



4.6. Operation contracts

Name: Register.

Responsibilities: To register the new user.

Cross References: Use case: Register.

Exceptions: None.

Preconditions: Register interface must be opened, and user must enter valid information.

Post conditions: Welcome screen showed to the user.

Operation Contract#2

Name: Sign in.

Responsibilities: A user is logged in.

Cross References: Use Case: Sign In.

Exceptions: invalid username or password.

Preconditions: user must have account.

Post conditions: Successfully signed in.

Operation Contract#3

Name: Sign out.

Responsibilities: user is logged out.

Cross References: Use Case: Sign-out.

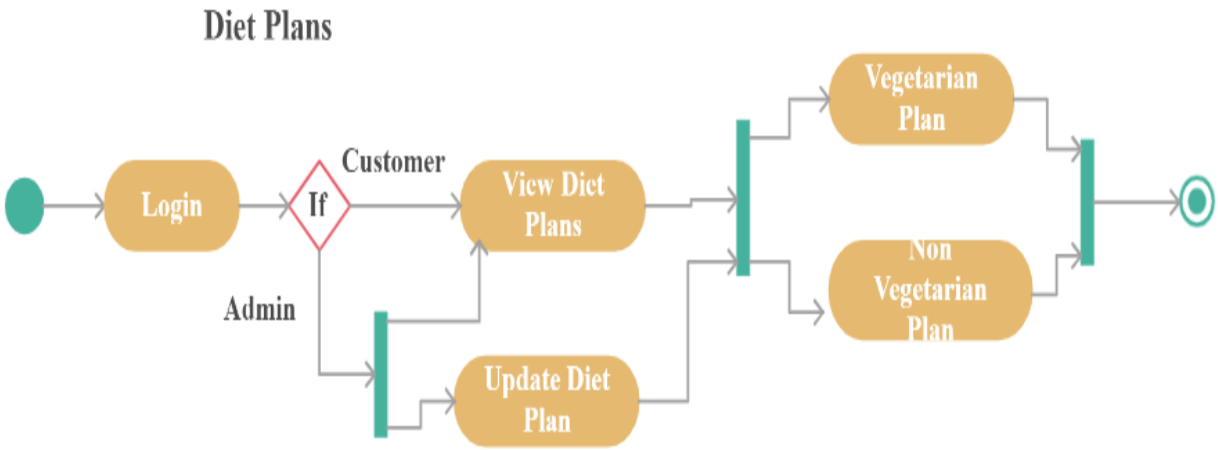
Exceptions: None.

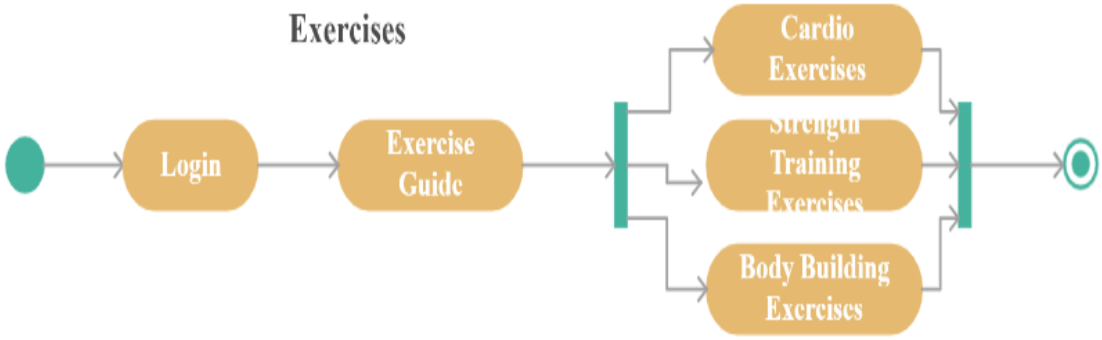
Preconditions: Must be logged in.

Post conditions: Log out successfully.

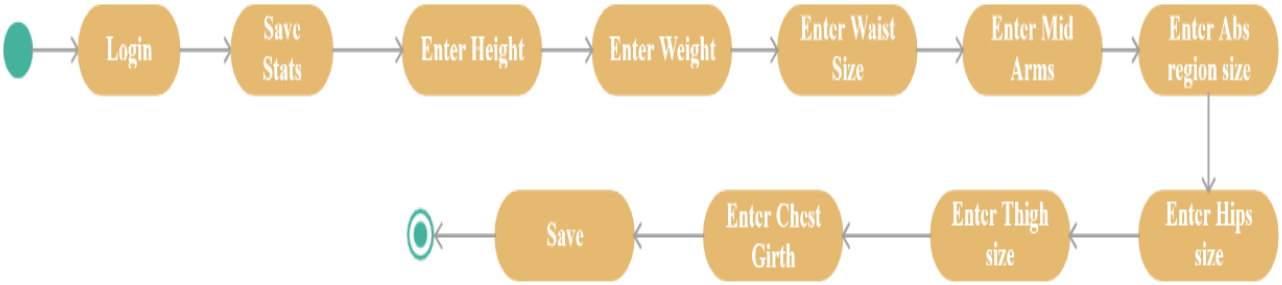
4.7. Activity Diagram

Activity diagram is basically a flow chart to represent the flow from one activity to another activity .The activity can be described as an operation of the system. The control flow is drawn from one operation to another. This flow can be sequential, branched or concurrent. This distinction is important for a distributed system. Activity diagrams allow you to think functionally. This diagram is used to model the activities which are nothing but business requirements. So the diagram has more impact on business understanding rather implementation details.

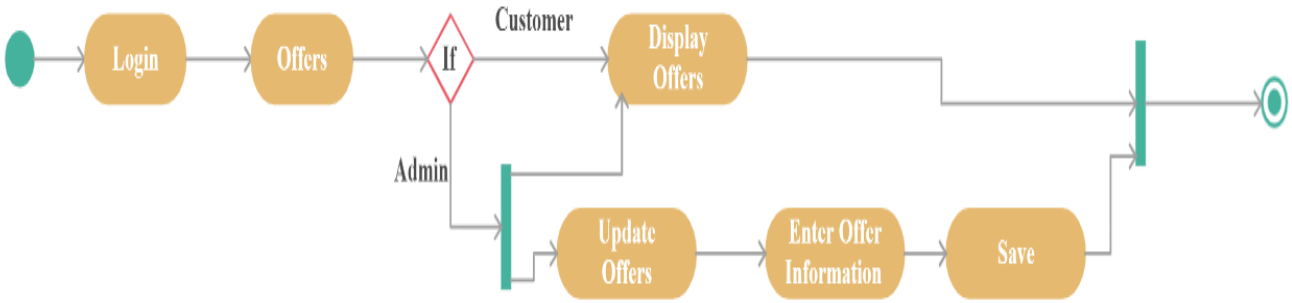

Diet Plans
Login
If
Customer
Admin
View Diet Plans
Update Diet Plan
Vegetarian Plan
Non Vegetarian Plan


Exercises
Login
Exercise Guide
Cardio Exercises
Strength Training Exercises
Body Building Exercises

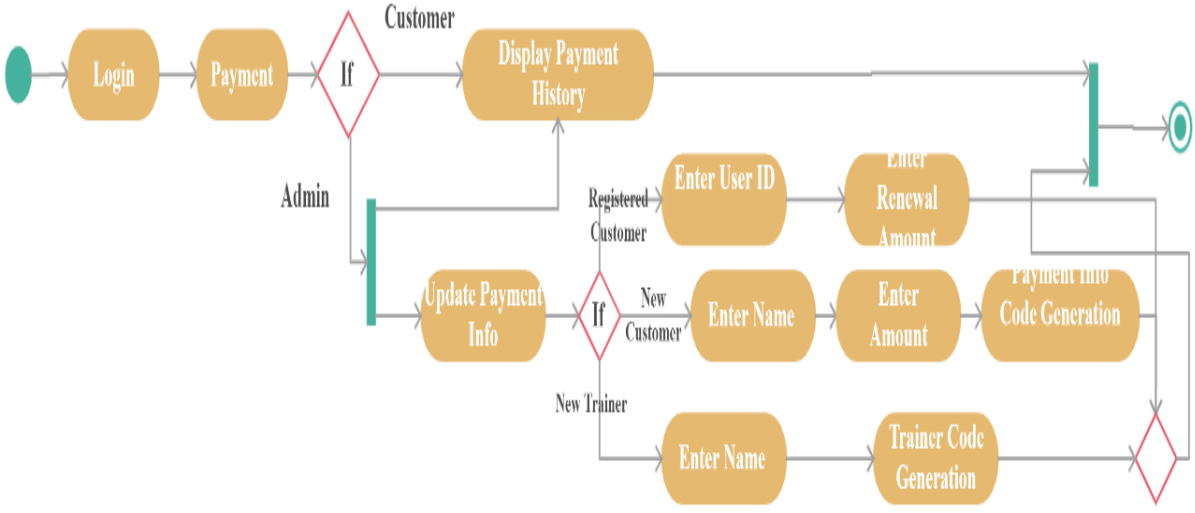
Save Stats



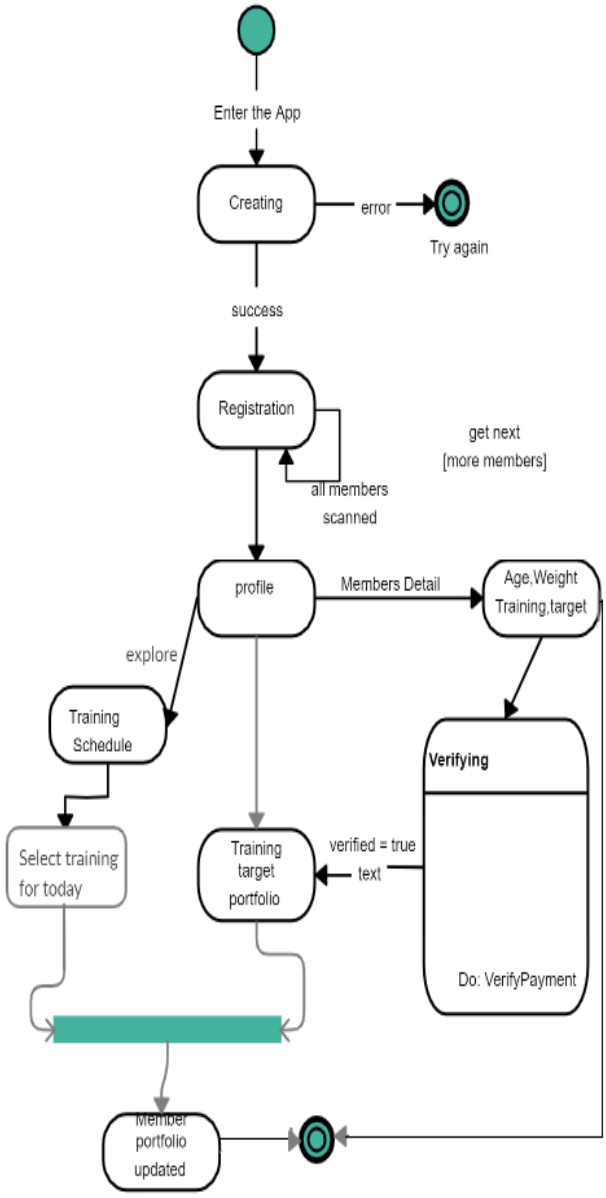
Offers



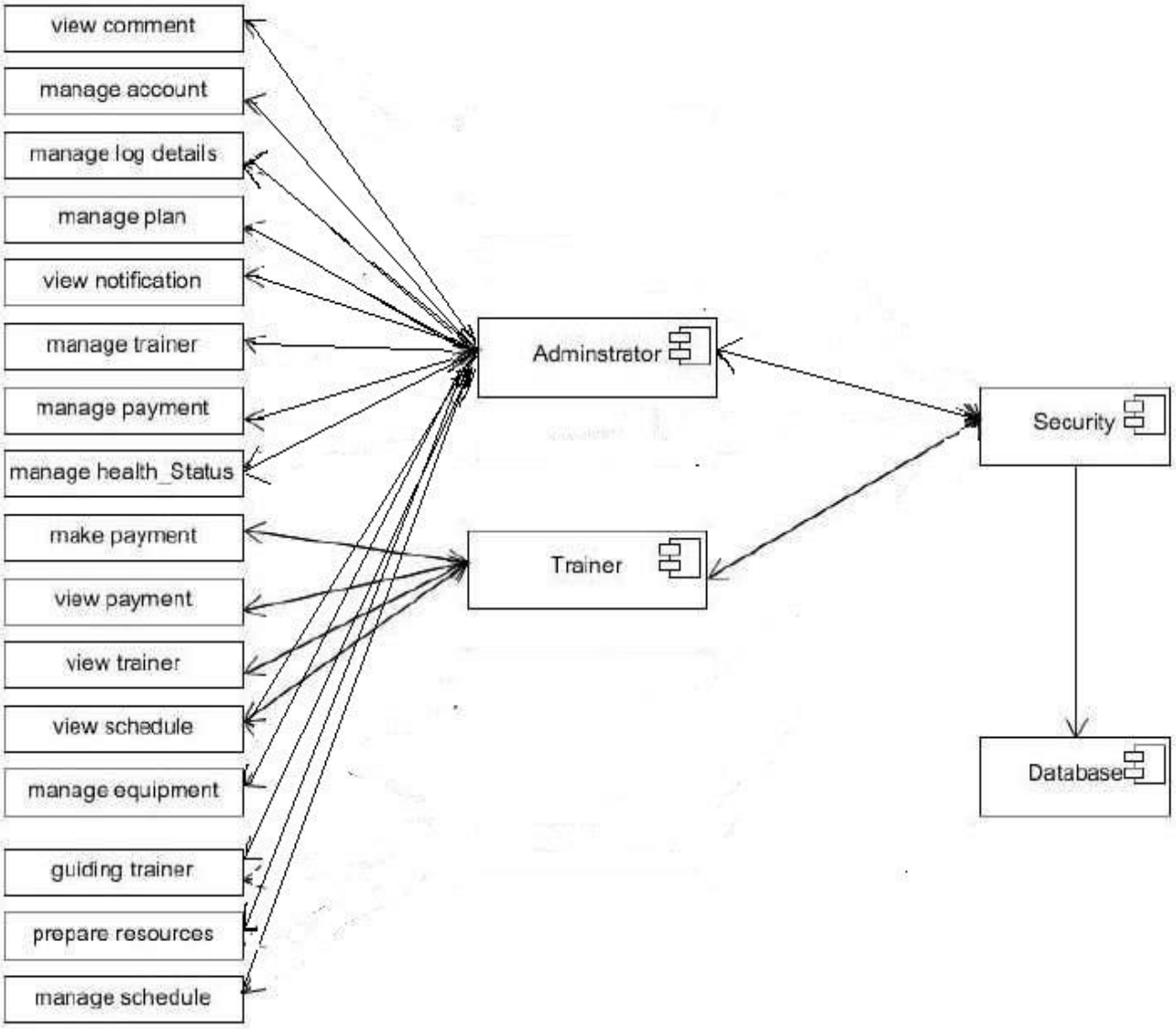
Payment



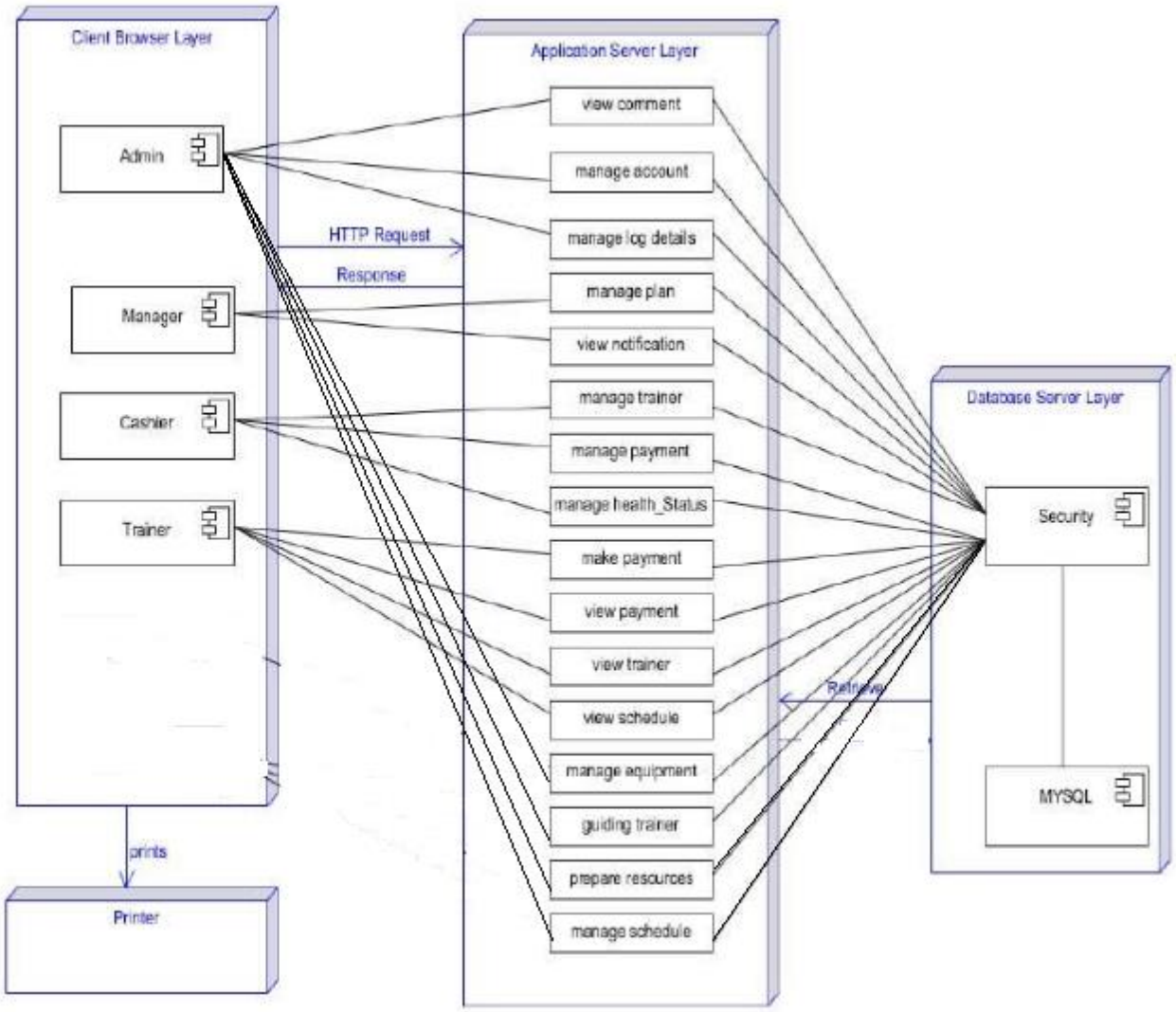
4.8. State Transition Diagram



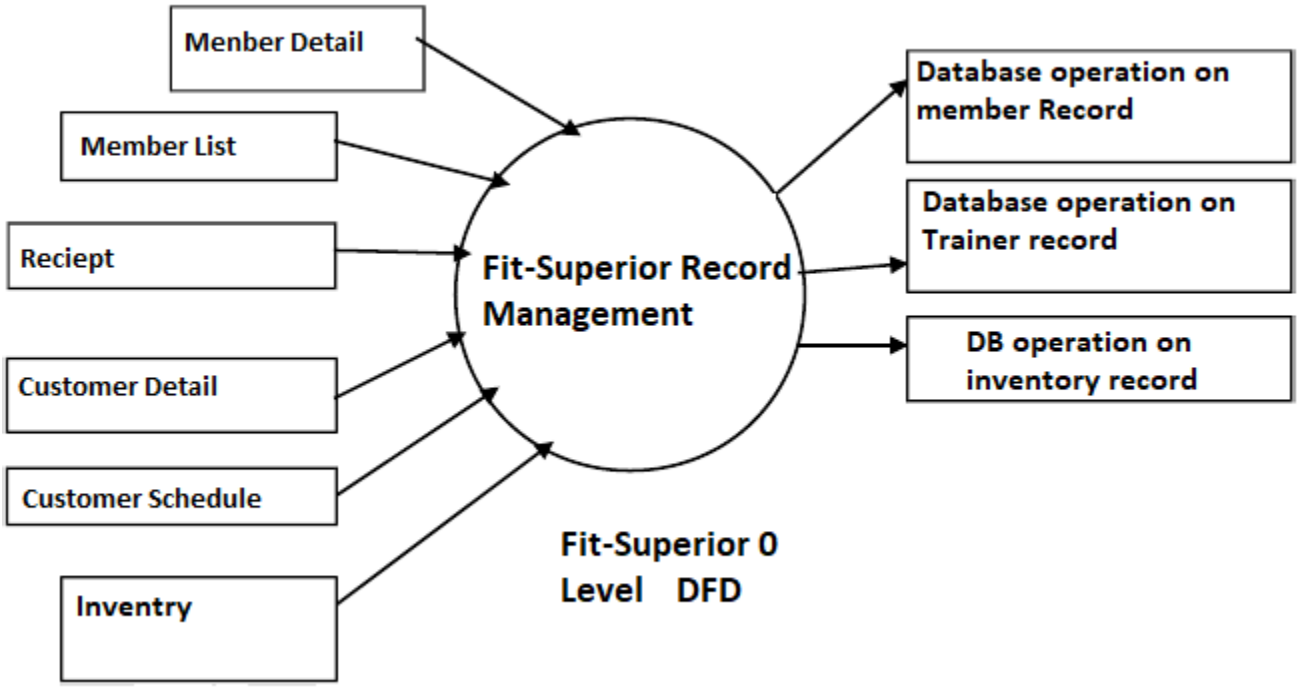
4.9. Component Diagram



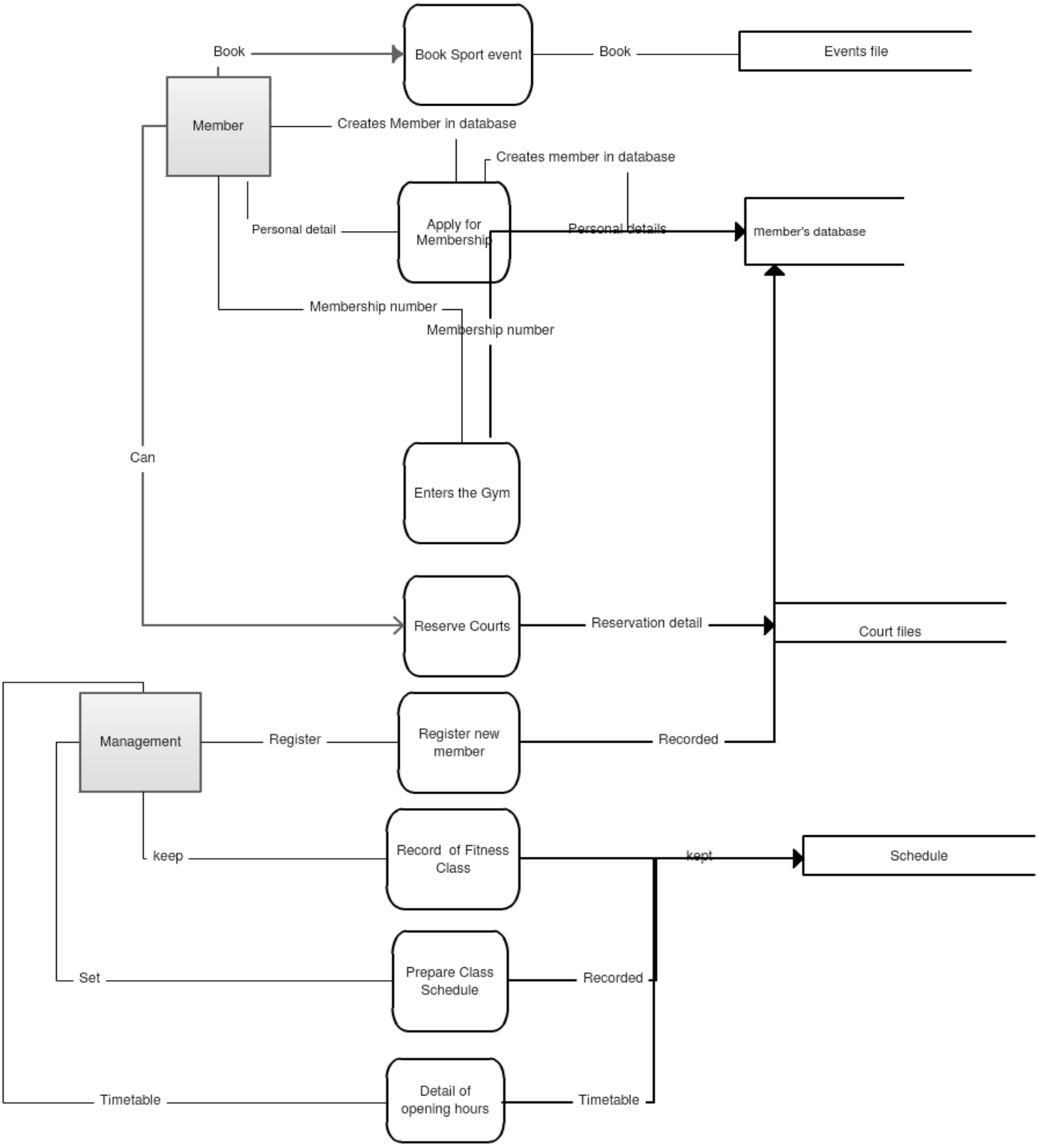
4.10. Deployment Diagram



4.11. Data Flow diagram



Fit-Superior 0 Level DFD


Book
Book Sport event
Book
Events file
Member
Creates Member in database
Creates member in database
Personal detail
Apply for Membership
Personal details
Member's database
Membership number
Membership number
Can
Enters the Gym
Reserve Courts
Reservation detail
Court files
Management
Register
Register new member
Recorded
keep
Record of Fitness Class
kept
Schedule
Set
Prepare Class Schedule
Recorded
Timetable
Detail of opening hours
Timetable

Chapter 5

Implementation

Chapter 5: Implementation

We use Incremental method software engineering technique for developing our project.

5.1. Important Flow Control/Pseudo codes

Pseudo codes mean how over project will work its complete flow we have described it in diagrams like UML diagram sequence diagrams etc. Pseudo code is simple. You just write out the steps to be taken to perform any task

5.2. Components, Libraries, Web Services and stubs

User Interface UI

- Styling
- Screen flexibility
- Slider

Libraries:

An Android library is structurally the same as an Android app module. It can include everything needed to build an app, including source code, resource files, and an Android manifest. However, instead of compiling into an APK that runs on a device, an Android library compiles into an Android Archive (AAR) file that you can use as a dependency for an Android app module. Unlike JAR files, AAR files can contain Android resources and a manifest file, which allows you to bundle in shared resources like layouts and drawables in addition to Java classes and methods.

A library module is useful in the following situations:

- When you're building multiple apps that use some of the same components, such as activities, services, or UI layouts.
- When you're building an app that exists in multiple APK variations, such as a free and paid version and you need the same core components in both.

Stubs:

The sync adapter framework is designed to work with device data managed by the flexible and highly secure content provider framework. For this reason, the sync adapter framework expects that an app that uses the framework has already defined a content provider for its local data. If the sync adapter framework tries to run your sync adapter, and your app doesn't have a content provider, your sync adapter crashes

5.3. Deployment Environment

This application doesn’t require any heavy system to develop any system It just require hard work and friendly environment to develop.

5.4. Tools and Techniques

- Android Studio(3.5.3 with jdk13)
- Xml (for Layout)
- Java (for coding)
- MS-Visio / creatly (for Diagrams)
- Firebase

5.5. Best Practices / Coding Standards

Write comments and documentation.

• Write readable yet efficient code

. • Use helper methods.

• If avoidable, do NOT hard code!

• Write test cases.

5.6. Version Control

We are using the latest versions of the tools which we are using in the development of this We will use Android studio version control system where we can handle our project with speed and efficiency. We can easily manage and share our code with other team members

Chapter 6

Testing and Evaluation

Chapter 6: Testing and Evaluation

Test & Evaluation (T&E) is the process by which a system or components are compared against requirements and specifications through **testing**. The results are evaluated to assess progress of design, performance, supportability, etc

6.1. Use Case Testing

Fit-Superior Diagram. This **Use Case** Diagram is a graphic depiction of the interactions among the elements of this app. It represents the methodology **used** in **system** analysis to identify, clarify, and organize **system** requirements of **fit -Superior**

6.2. Equivalence partitioning

Equivalence partitioning or equivalence class partitioning (ECP) is a software testing technique that divides the input data of a software unit into partitions of equivalent data from which test cases can be derived. In principle, test cases are designed to cover each partition at least once

6.3. Boundary value analysis

The basis of Boundary Value Analysis (BVA) is testing the boundaries at partitions (*Remember Equivalence Partitioning !*). BVA is an extension of equivalence partitioning. However, this is useable only when the partition is ordered, consisting of numeric or sequential data. The minimum and maximum values of a partition are its boundary values.

6.4. Data flow testing

Data flow testing is a family of test strategies based on selecting paths through the program's control flow in order to explore sequences of events related to the status of variables

or data objects. Dataflow Testing focuses on the points at which variables receive values and the points at which these values are used.

6.5. Unit testing

Each module is considered independently. it focuses on each unit of software as implemented in the source code. it is white box testing

6.6. Integration testing

integration testing aims at constructing the program structure while at the sameconstructing tests to uncover errors associated with interfacing the modules.modules are integrated by using the top down approach

6.7. Performance testing

Load testing - checks the application's ability to perform under anticipated user loads. The objective is to identify performance bottlenecks before the software application goes live. ... The objective is to check software application's performance under varying database volumes

6.8. Stress Testing

STRESS TESTING is a type of Software Testing that verifies the stability & reliability of the system. ... It also checks whether the system demonstrates effective error management under extreme conditions. The application under testing will be stressed when 5GB data is copied from the website and pasted in notepad

Chapter 7

Summary, Conclusion and Future Enhancements

Chapter 7:

Summary, Conclusion & Future Enhancements

7.1. Project Summary

The focus of enhancements towards the technology-based prevention services delivery for the health and is related with every aspect of our lives. Therefore, we make an application names as Fit-Superior Application which will be an android platform-based application that would provide a platform to the users where they do not have to go for variety of applications for different purposes regarding fitness and health. It will not only merge all workout plans but bring also Diet plans, Trainers and statistics of all the activities of user under one roof and will also focus on the customization of diet plans according to the budget of user.

Fit-superior provide users with a set of exercises along with demonstration on how they should be performed. This **app** also acts as personal trainer in smartphones and a user can track everything from workout schedule to the number of calories burnt in a day. Fit-superior have a strong mission to improve the health and well-being of its customers and the community by providing health and fitness services through this application.

The vision of Fit-Superior is to be the premier medically-based health and wellness facility providing advanced, collaborative programming centered on the whole-health and well-being of the community and region. One day Fit-Superior will be known as an exceptional experienced trainer with the highest quality of fitness services according to the need of user.

7.2. Achievements and Improvements

7.2.1 Achievements:

After the project we get to know team importance and about different health services .The achievements from our project are as follows:

- Allows user to do exercise.
- Demonstrations of exercise how they are performed.
- Can acts as a personal trainer.
- Improvement of health.
- Well-being of community.
- Provision of fitness services under one roof.
- Almost control over all health problems

7.2.2 Improvements:

The improvements that can be made in future in our app are below:

- Push notification & reminders
- Gamification
- Multi-device synchronization
- Sleep tracker
- Altimeter
- Food tracker
- Water Tracker

7.3.

7.4. Critical Review

Many early work-site exercise programs had a unique fitness focus. More recently, modular programs have addressed many facets of lifestyle. Their stated objective has often been to boost corporate morale or employee health rather than to have direct economic benefits, and evaluation has frequently been in terms of process rather than a cost-benefit or a cost-effectiveness analysis.

7.5. Lessons Learnt

The thing which is most achieved by us during this project is how to co-operate with each other and how we can act as a team and speed up our pace in developing an app which is a real-time

need of the world. Though, this work needed a lot of brain-storming and a lot of hard-work in accomplishing this task. All of us devoted ourselves in making this application and bring this for the better tomorrow of the mankind. We also learnt how to bring an application to the market and face these challenges to be successful. Moreover, market research and contemplate of adding some more features will this application outstanding and all of us are ready to do more work on it.

7.6. Future Enhancements/Recommendations

Future enhancements will be:

- Push notification & reminders
- Gamification
- Multi-device synchronization
- Sleep tracker
- Altimeter
- Food tracker
- Water Tracker

Appendices

Appendix A: USER MANUAL

In this section we describe the interface and how user can user our project.

Appendix A: Fit-superior

A.1. Login

A.1.1 Select Functionalities

User can select functionalities which they want to do.

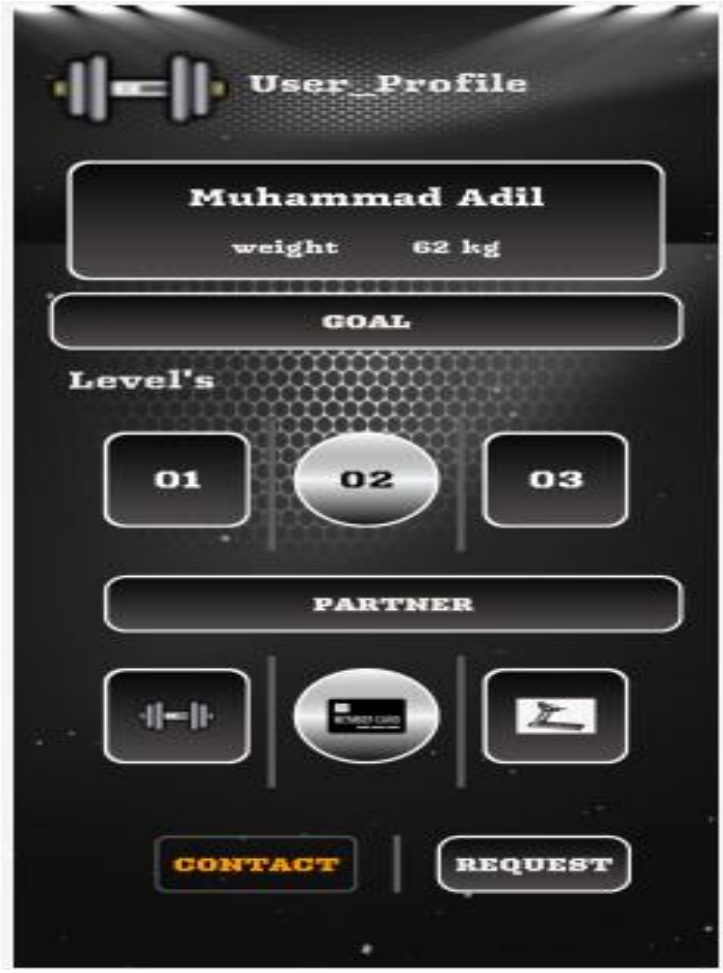
A.2. Dashboard

This is dashboard.

Appendix B:

B.1 USER PROFILE

User can create profile.

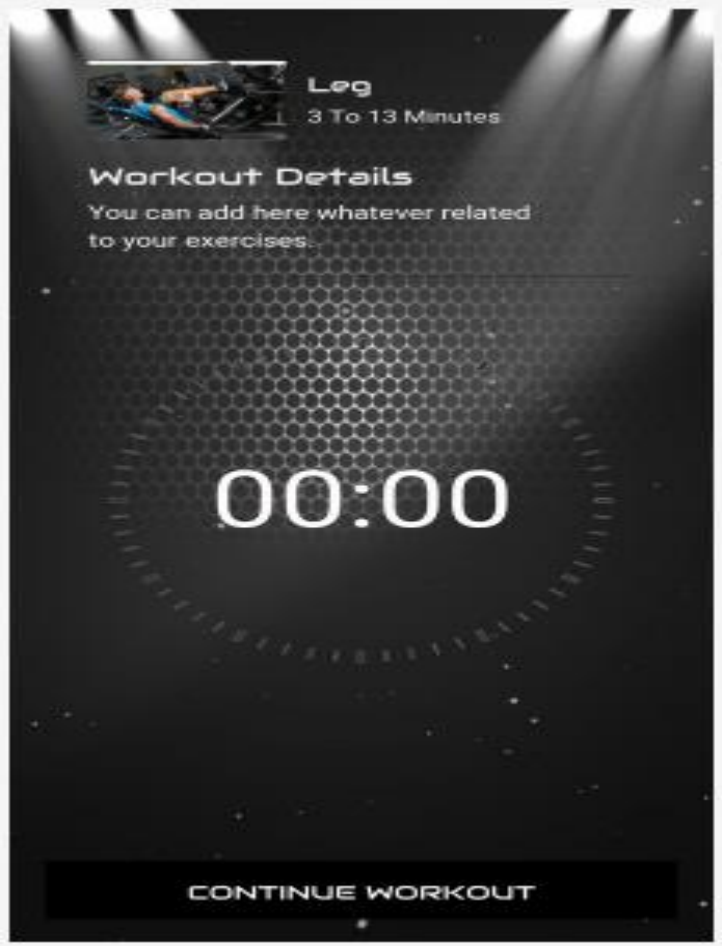


B.1.1 Splash

This is splash .

B.1.1.1 WORKOUT TIME

This is workout timer.



Reference and Bibliography

Reference and Bibliography

[1] M. Sher, M. Rehman, "*Title of the Paper*" Conference name/Journal Name, Edition, Volume, Issue, ISBN/ISSN, PP, Publisher/City-Country, Year.

[2] ……