A

Project Report

On

Fitness Coach

Submitted by

Omkar Jeevan More

Roll No.: 22137

MCA-II

SEM-III

Under the guidance of

Dr.Ramesh Jadhav

For the Academic Year 2022-23

Sinhgad Technical Education Society's

Sinhgad Institute of Management

Vadgaon Bk Pune 411041

(Affiliated to SPPU Pune & Approved by AICTE New Delhi)

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M.E. (ELECT.), MIE, MBA	B.A., MPM, Ph.D	MCA, ME, (Com. Sci.), Ph.D
FOUNDER PRESIDENT	FOUNDER SECRETARY	DIRECTOR - MCA

Date:

CERTIFICATE

This is to certify that Mr. Omkar Jeevan More has successfully completed his/ her project work entitled **"Fitness Cocach"** in partial fulfillment of MCA – II SEM –III Mini Project for the year 2023-2024. He/ She has worked underour guidance and direction.

Dr.Ramesh Jadhav
Project Guide

Dr. Chandrani Singh
Director, SIOM-MCA

Examiner 1

Examiner 2

Date:

Place: Pune

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DECLARATION

I certify that the work contained in this report is original and has been done by me under the guidance of my supervisor(s).

- The work has not been submitted to any other Institute for any degree or diploma.
- I have followed the guidelines provided by the Institute in preparing the report.
- I have conformed to the norms and guidelines given in the Ethical Code of Conduct of the Institute.
- Whenever I have used materials (data, theoretical analysis, figures, and text) from other sources, I have given due credit to them by citing them in the text of the report and giving their details in the references.

Name and Signature of Project Team Members*:*

Sr. No.	Seat No.	Name of students	Signature of students
1		Omkar Jeevan More	

ACKNOWLEDGEMENT

It is very difficult task to acknowledge all those who have been of tremendous help in this project. I would like to thank my respected guide **Dr.Ramesh Jadhav** for providing me necessary facilities to complete my project and also for their guidance and encouragement in completing my project successfully without which it wouldn't be possible. I wish to convey my special thanks and immeasurable feelings of gratitude towards **Dr. Chandrani Singh, Director SIOM-MCA.** I wish to convey my special thanks to all teaching and non-teaching staff members of **Sinhgad Institute of Management, Pune** for their support.

Thank You

Yours Sincerely,

Omkar Jeevan More

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CHAPTER 1: INTRODUCTION

An android fitness coach application that can help to maintaining health and increase fitness level by using this application. User can meet professionals and get services from them through the application instead of meeting physically over a place. Professionals can provide services and the users can find and identify experienced professionals. User can interact with the huge community that related to health and fitness. So, if user in trouble, they can ask question from the community. User can learn a lot of things related to health and fitness from the community. So, it improves knowledge of a healthy lifestyle. Save time and money. User can track their fitness level and able to do something to increase it. People can find food nutrition and proper diet.

1.1.Abstract

In a world where health and well-being have taken center stage, the demand for personalized fitness coaching has never been higher. This app is designed to meet this demand by providing a comprehensive and tailored fitness coaching experience that empowers users to achieve their health and fitness goals.it is not just another fitness app; it's your virtual fitness companion. This innovative mobile application harnesses the power of cutting-edge technology and expert guidance to deliver a seamless and highly effective fitness coaching experience. Users can expect a wide range of features and benefits, including personalized workout plans, nutrition guidance, progress tracking, and more

1.2. Existing System and Need for System :

Existing System :

The existing system in tracking the fitness is using paperwork and direct human language communication to manage the gym system This creates problems, in terms of member records and their transactions which minimize the overall performance of the system and do not fulfil the requirements. Thus the work becomes increase.

Need for System:

A fitness tracker lets you watch and record your calories, daily burned calories and body mass index. Self-tracking allows you to stick to a healthier diet, exercise more and sleep better. Regular use of fitness tracker boosts your daily workouts and makes them achievable.

Making user profiles

Planning personalized diet routines

Saving the statistics he/she gets

Setting goals

Comparing the performance/progress

1.3.Scope of System :

This project has much scope both in present as well as future. The scope of this project is the mobile phone on which the software is installed, i.e. the project is developed as a mobile application, and it will work for users who wants to maintain health. Generally, this type of apps is mostly preferred by athletes or sports freaks. The activity tracking app consists of multiple optical sensors to calculate the completed steps and calories burned during the exercise.

The Fitness Coach Android app aims to provide a comprehensive and user-friendly platform for individuals to embark on and sustain their fitness journeys while prioritizing personalization, expert support, and community engagement. The scope outlined here forms the foundation for the app's development and functionality.

1.4. Operating Environment Hardware and Software

Hardware Requirements :

Processor: 2GHZ

RAM: 8GB

HDD: 16GB

Software Requirements:

Operating System: Android

Database: Firebase

Front End: XML

Server-Side Script: java

Software Development Tool: android studio

1.5. Brief Description of Technology used :

XML :

EXtensible Markup Language is a widely used language in Android app development. It serves as a fundamental component for defining and structuring the layout and user interface of Android applications.

Java :

it is a widely used programming language in Android app development. It serves as the primary language for writing Android applications. Here's a brief description of Java's role in Android development:

1.Official Language: Java is one of the official programming languages for Android development. Android applications can be written in Java, alongside Kotlin, another officially supported language.

2.Object-Oriented: Java is an object-oriented programming language, which aligns well with the object-oriented nature of Android development. Developers use classes and objects to create modular and reusable code.

Firebase :

it offers a unified and easy-to-use platform that makes it easier for Android app developers to build, deploy, and manage their apps, reducing the need for complex server infrastructure and backend development. It is a popular choice for both beginners and experienced developers due to its wide array of features and the integration it offers with other Google services.

CHAPTER 2: PROPOSED SYSTEM

2.1.Feasibility Study

Technical Feasibility:

This technical feasibility study of a system determines whether the technology needed for the proposed system is available and this technology can be integrated into the Fitness tracking app.

Economic Feasibility:

This project aims to determine the positive economic benefits to the organization that the proposed system will provide. The expense of hardware and software for the system is found to be very cost effective and beneficial for the management. You don't need to purchase the any special software or hardware from the market, so effectively the cost .you can carry it easily to other place.

Operational Feasibility:

Operational feasibility is the measure of how well the project will support the customer and the service provider during the operational phase.The system is user friendly and person can operate or use the proposed system as no special kind of training or expertise person will be required. The new system cuts down on all the paper works & time delay of existing manual system, the system is operationally feasibility.

2.2.Objectives of the proposed system :

The goal of fitness tracking apps is to collect data about the user's activities. These include the number of calories taken, food eating, distance ran, and other fitness metrics. To make it easy for users to monitor progress, create a fitness tracking app that will also provide calendars to schedule daily activities.

The ultimate goal of a fitness coach app in Android is to assist individuals in adopting a healthier lifestyle, improving their physical fitness, and achieving their fitness and wellness objectives. By offering personalized guidance, tracking tools, and motivation, such apps aim to empower users to take control of their health and well-being.

1.Personalized Fitness Plans: Provide users with tailored workout and nutrition plans based on their fitness goals, current fitness level, age, gender, and other relevant factors.

2.Workout Tracking: Allow users to log their workouts and track their progress, including the number of steps taken, calories burned, and other exercise metrics.

3.Nutrition Tracking: Help users monitor their dietary intake by recording meals and calorie consumption, offering nutritional advice, and suggesting meal plans.

2.3.Users of the system

- Login-

Existing Login This page will have the login display of the software and it will have the link to other modules also. Once the module is open it can then link to the database and retrieve the settings from the database. This module is also responsible to apply the settings on the other modules. This module will have only database reading capabilities and not writing.

- Sign up -

a service normal user can register as a new user and track his fitness details. And also get advice from the expert trainer by using messaging. Become a seller User can register as a professional or the seller. User can upload newly arrived Powder ,new packages and give advice to the newly joined Trainee. Seller is a fitness Trainer, nutritionist, therapist.

- Message –

User can send message to the specialist for the consultancy purpose.

- Posts-

Seller can post any nutrition for the people who want to buy that product. Also user can post the any message about progress of body.

- Food Diary-

User can able to add different foods into the food diary. From that list of foods user also decide which food can take at breakfast , launch and dinner.

- BMI –

Bmi (body mass index) is measured by using the users weight and height.

CHAPTER 3: ANALYSIS AND DESIGN

3.1.Title of Project

- Online Insurance Portal

3.2.System Requirements (Functional & Non Functional)

1.Functional requirements : Functional requirements drive the application architecture of a system. Functional requirements are the intended behaviors of the system. This behavior may be expressed as services, tasks or functions that the system is required to perform. The functional requirements that the proposed system Perform.

-Registration of the new user

-Payment management

-Generating report

-remove report

-View report

2.Non-functional requirements :

Non-functional requirement is that describes about how the system will do the functional requirements. It describes performance, maintainability, security, usability, availability, accuracy, and reliability of proposed system. Performance: The proposed system perform its operations within a minimum amount of time and the user gets the expected result within a few seconds and the system is effective.

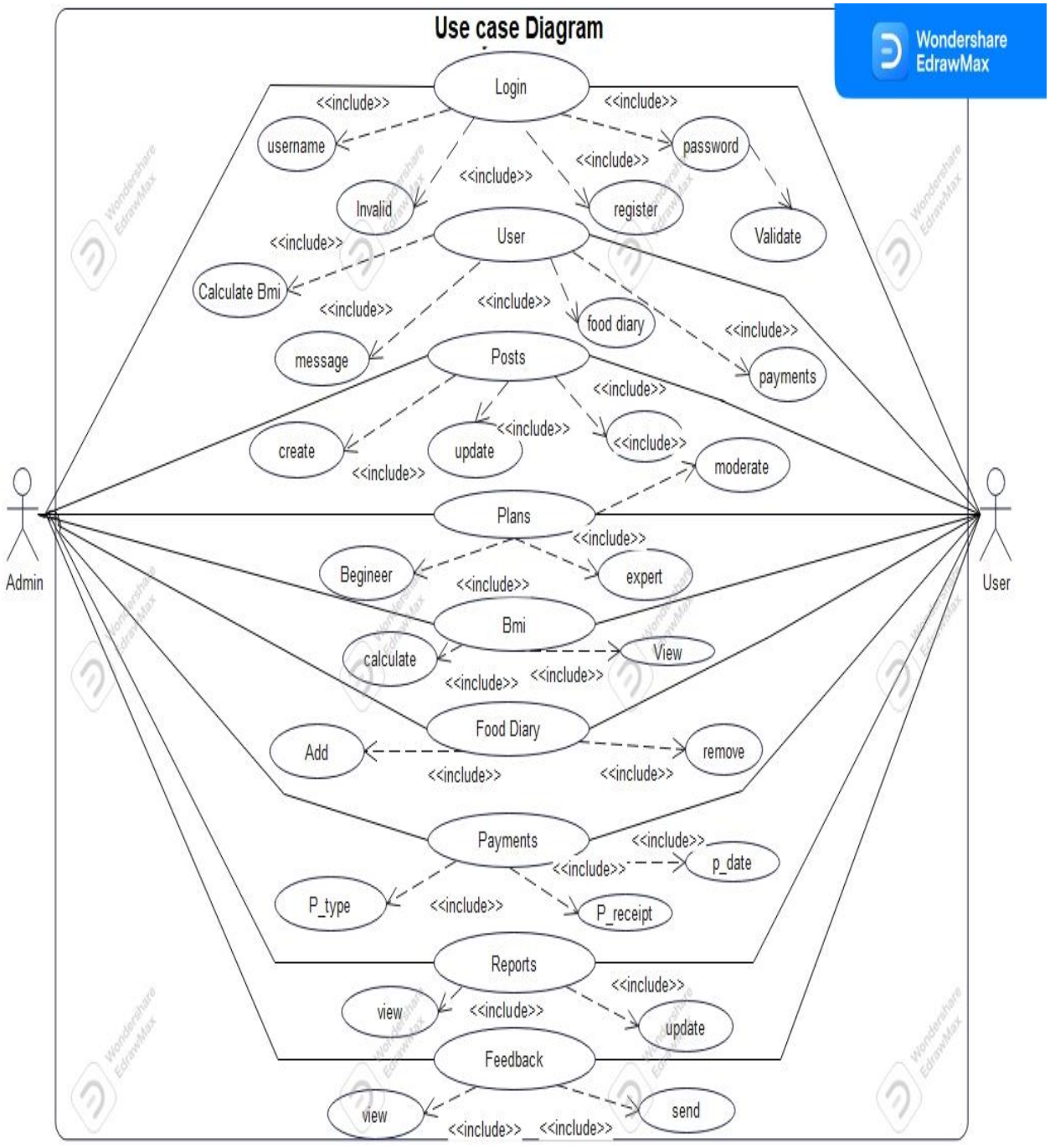
Accessibility: The system can be accessible based on the accessible privilege or based on autontication.

Accuracy: proposed system will reduce error because all operation can be check correctly and validate that whatever information is coming from the data base and input to the database. Maintenance: our system can be easy maintainable and updateable, if the system get any failure.

Extensibility: - Adding features and carry-forward of customizations at next major version upgrade along with the business re-engineering is possible

3.3.Use/System Case Diagram

3.3.1.use Case Diagram of User



Use Case Name:	System
Description:	User and Admin do the activities e.g. Login Management, User profile management, Profile Management,Category selection,etc.
Actor :	User and Admin
Pre Condition:	The user must be logged-In.
Main Flow:	1: Login Management. 2: profile management. 3: Category. 4: management. 5.payment management.
Relation Ship:	Include: Update Include: delete Include: Payments Details. Include: Report Details.
Post Condition:	A particular user will be logged-In. after do the different activities

3.3.1 : Login Management.

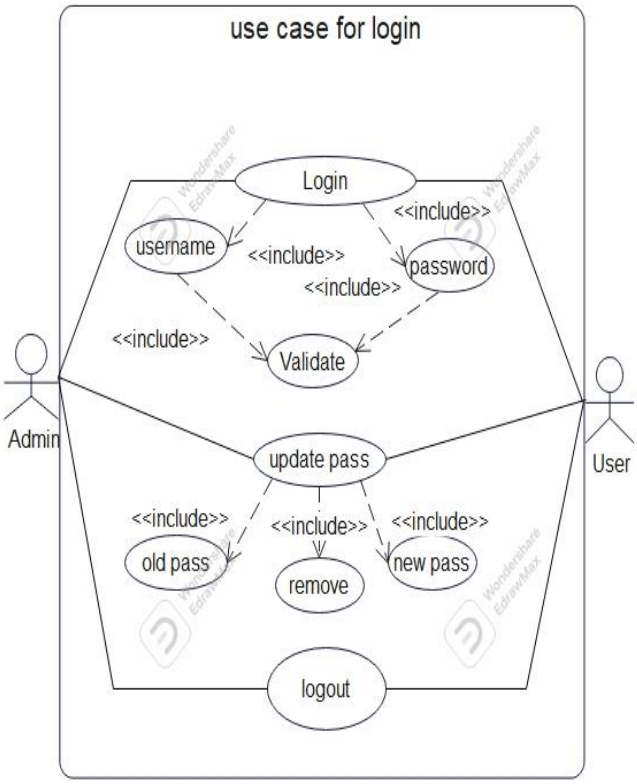
3.3.2 :Registration

3.3.3: Dashboard.

3.3.6 : Report management.

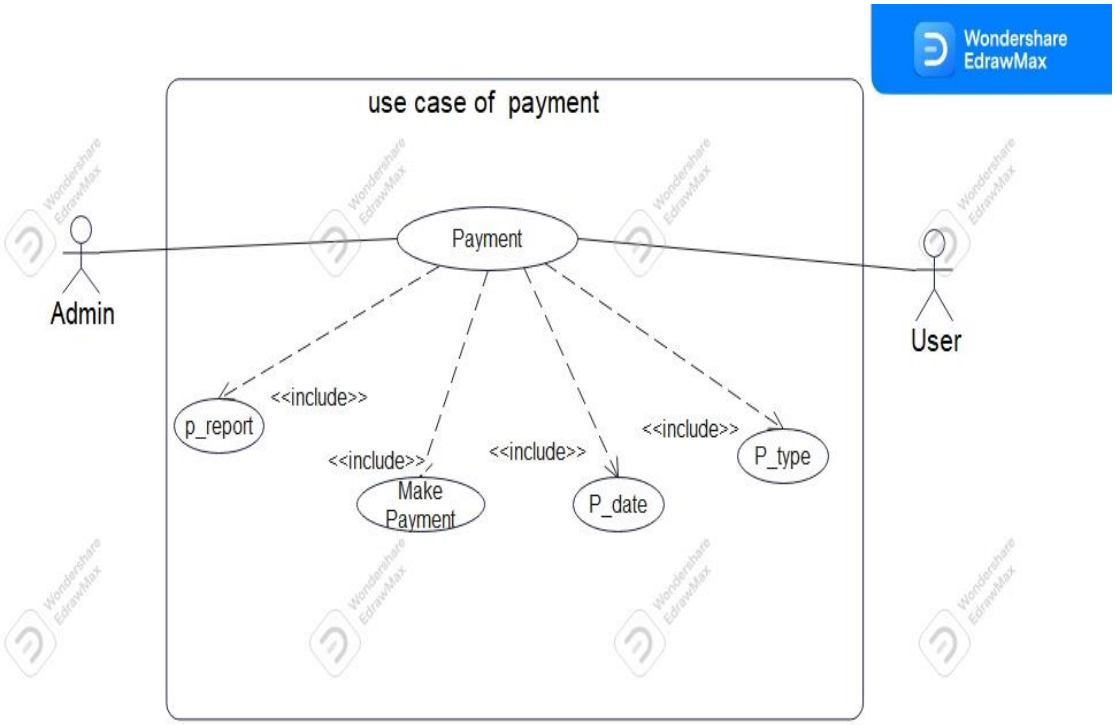
3.3.7 : Feedback management.

3.1.1.Use case for login



Use Case Name:	Login
Description:	Admin or User View the login details.
Actor :	Admin , User
Pre Condition:	The user must be logged-In.
Main Flow:	1: User Register the new login Details. 2: Admin allocates plans in system/website.3: User View the plans details. 4: Admin update the plans/workout Details.
Relation Ship:	Include:User-Details. Include:Policy Detail Include : update Include : remove
Post Condition:	A particular User will be checked login details.

3.3.3.use case of payement



Use Case Name:	Payment
Description:	Admin or User View the payment details.
Actor :	Admin , User
Pre Condition:	The user must be logged-In.
Main Flow:	1: User Register the new login Details. 2: Admin allocates plans wise payment in system/website.3: User View the payment details. 4: payment management
Relation Ship:	Include: User Details. Include: Payment Details Include: update Include: delete
Post Condition:	A particular User will be checked payment details.

3.4.Activity Diagram

3.4.1 Activity Diagram for login page

3.4.1 Login Management.

3.4.1.1.Check user Login.

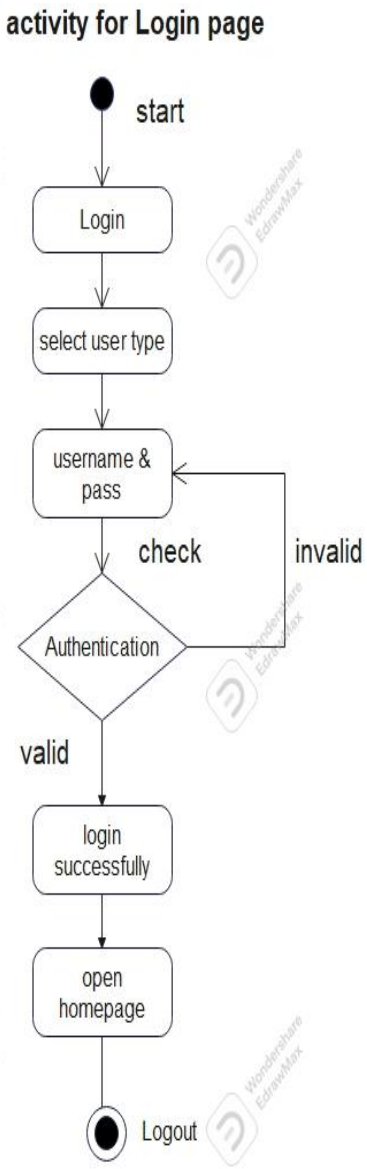
3.4.2Profile Management

3.4.2.1.Admin Registers the User Details.

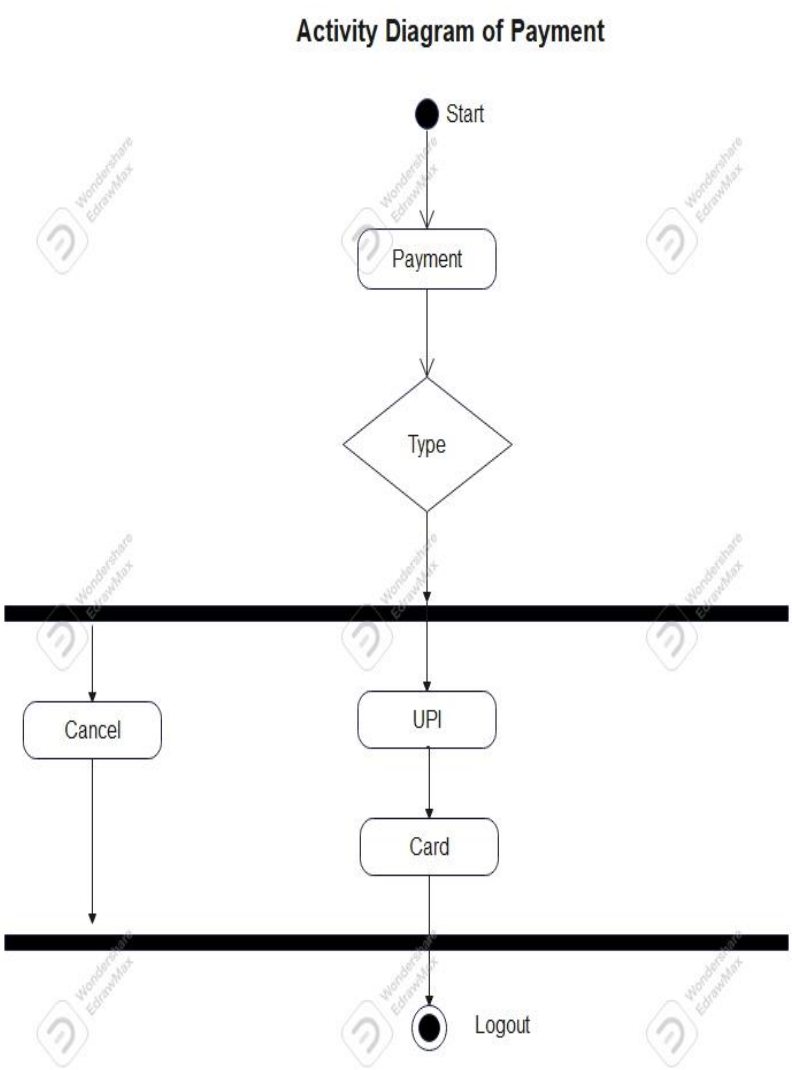
3.4.2.2.User View Self profile.

3.4.3.User can update details.

3.4.3.1.user edit details



3.4.2.Activity Diagram of Payment



3.4.3. Activity diagram of user

3.4.3 Login Management.

3.4.3.1 User can Login.

3.4.4 Registration Management

3.4.4.1 User can register details.

3.4.4.2 User view self profile.

3.4.5 Dashboard Management

3.4.5.1 User can view dashboard.

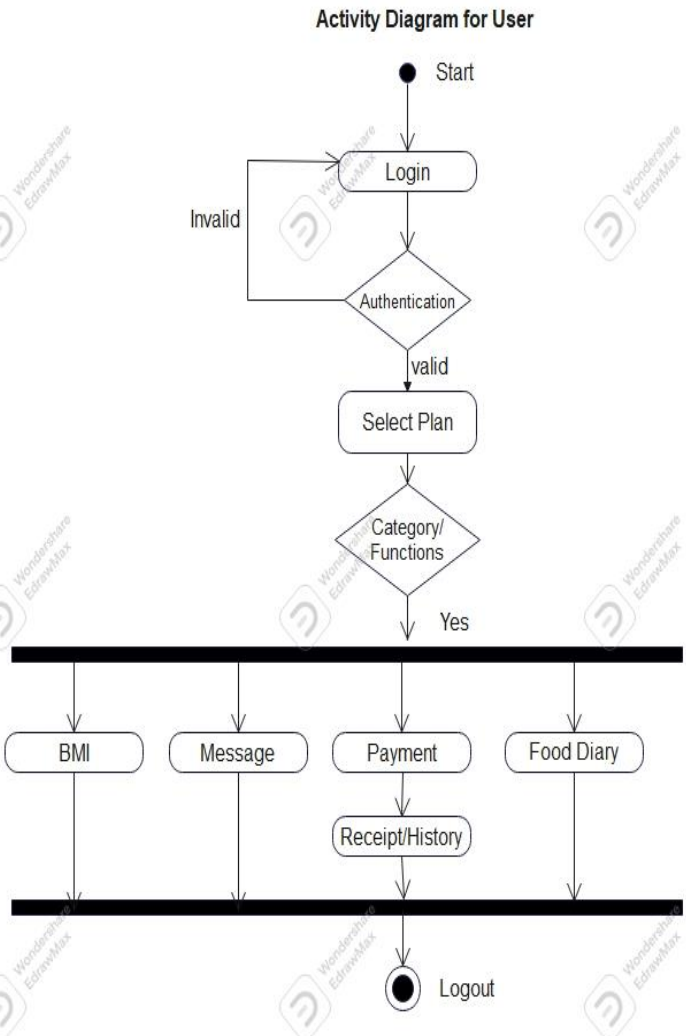
3.4.6 Plans Management.

3.4.6.1 select and view

3.4.7 Feedback Management

3.4.7.1 Give Feedback.

3.4.7.2 View Feedback.



3.5. Sequence Diagrams

3.5.1.Login Management.

3.5.1.User can Login.

3.5.2.Registration Management

3.5.2.1.User can register details.

3.5.2.2.User view self profile.

3.5.3.Dashboard Management

3.5.3.1.User can view dashboard.

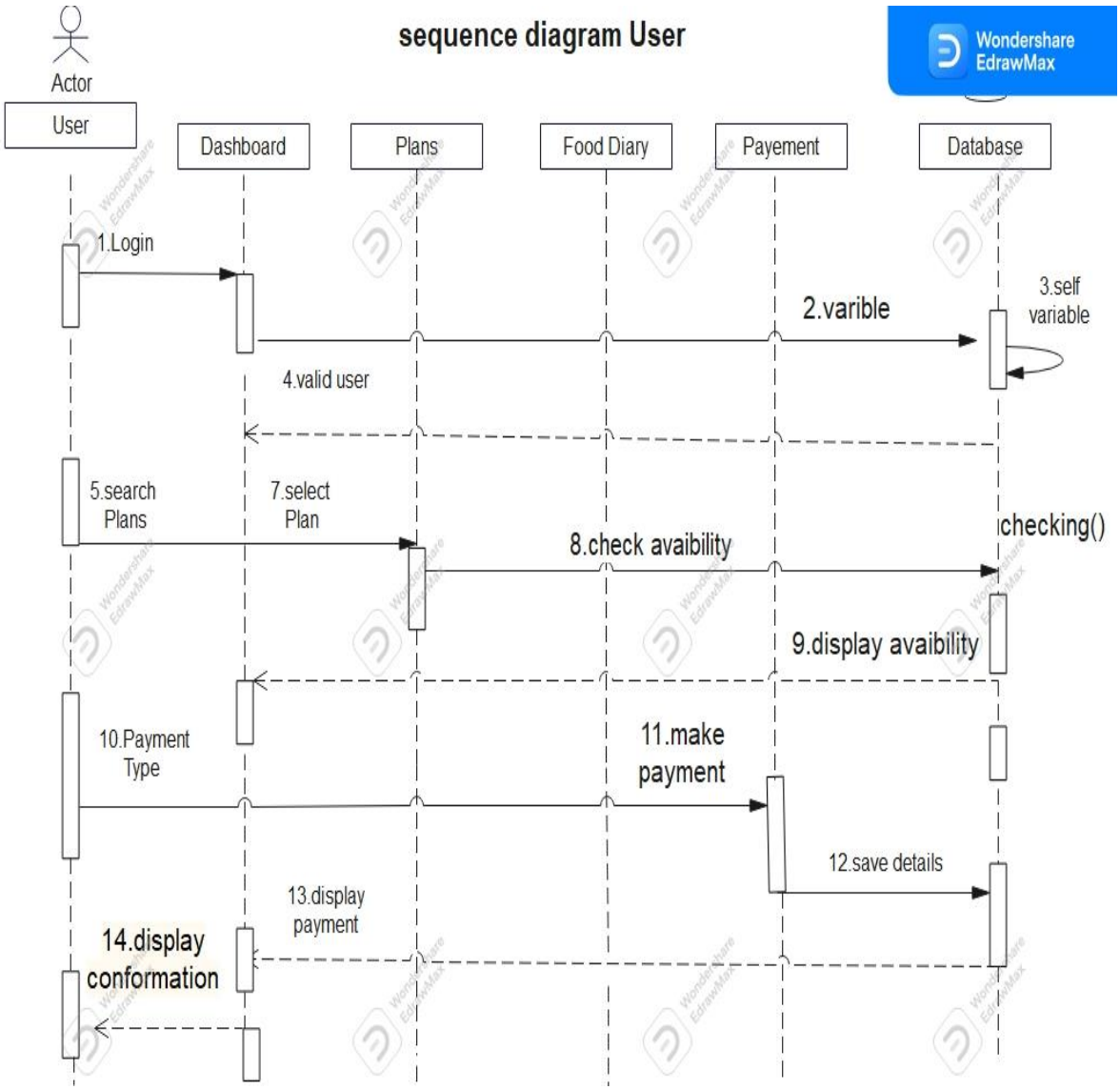
3.5.4.Report Management.

3.5.6.1.Admin view.

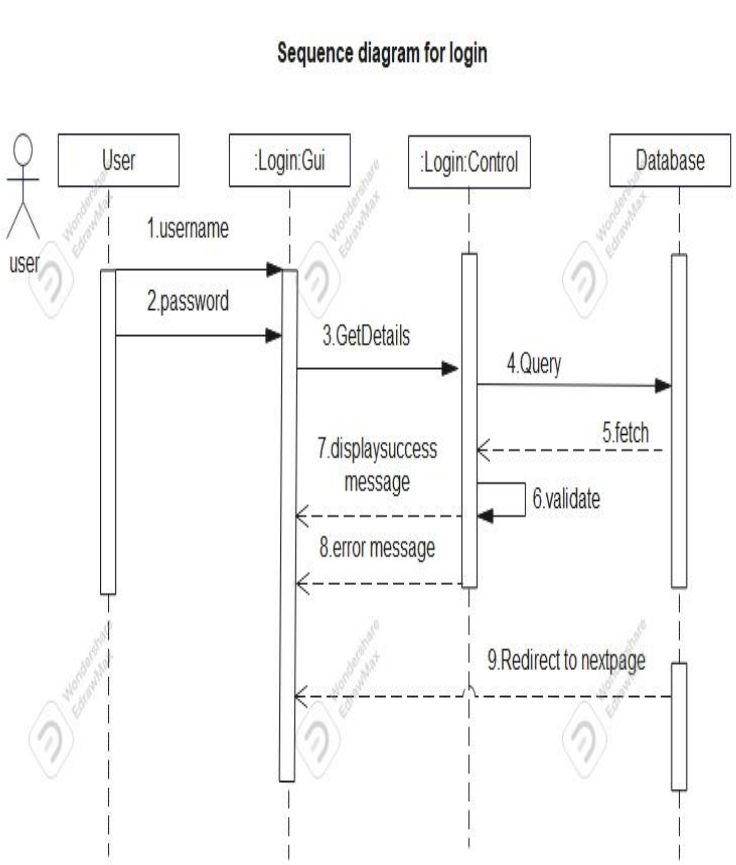
3.5.5.Feedback Management

3.5.5.1.Give Feedback.

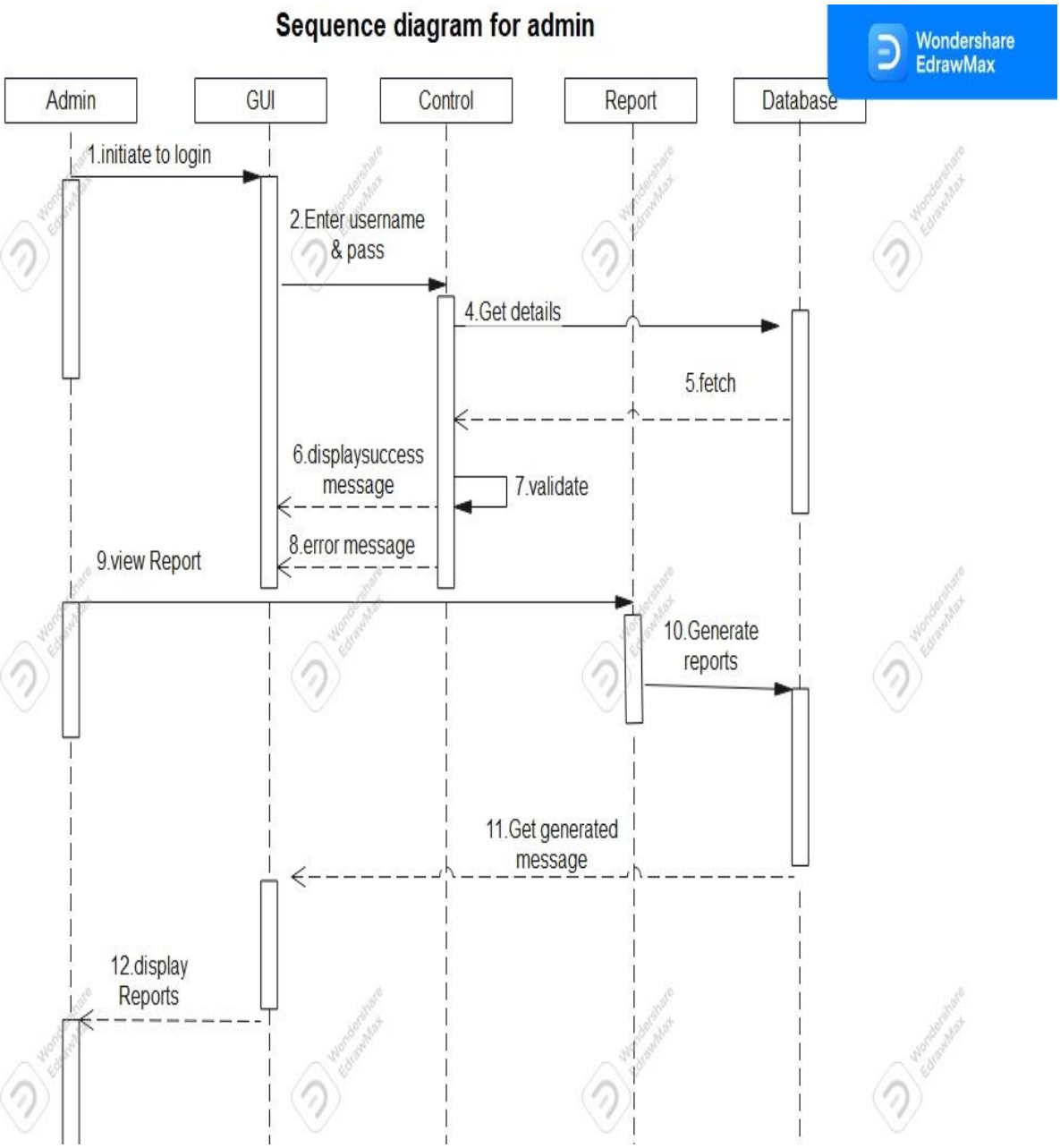
3.5.5.2.View Feedback.



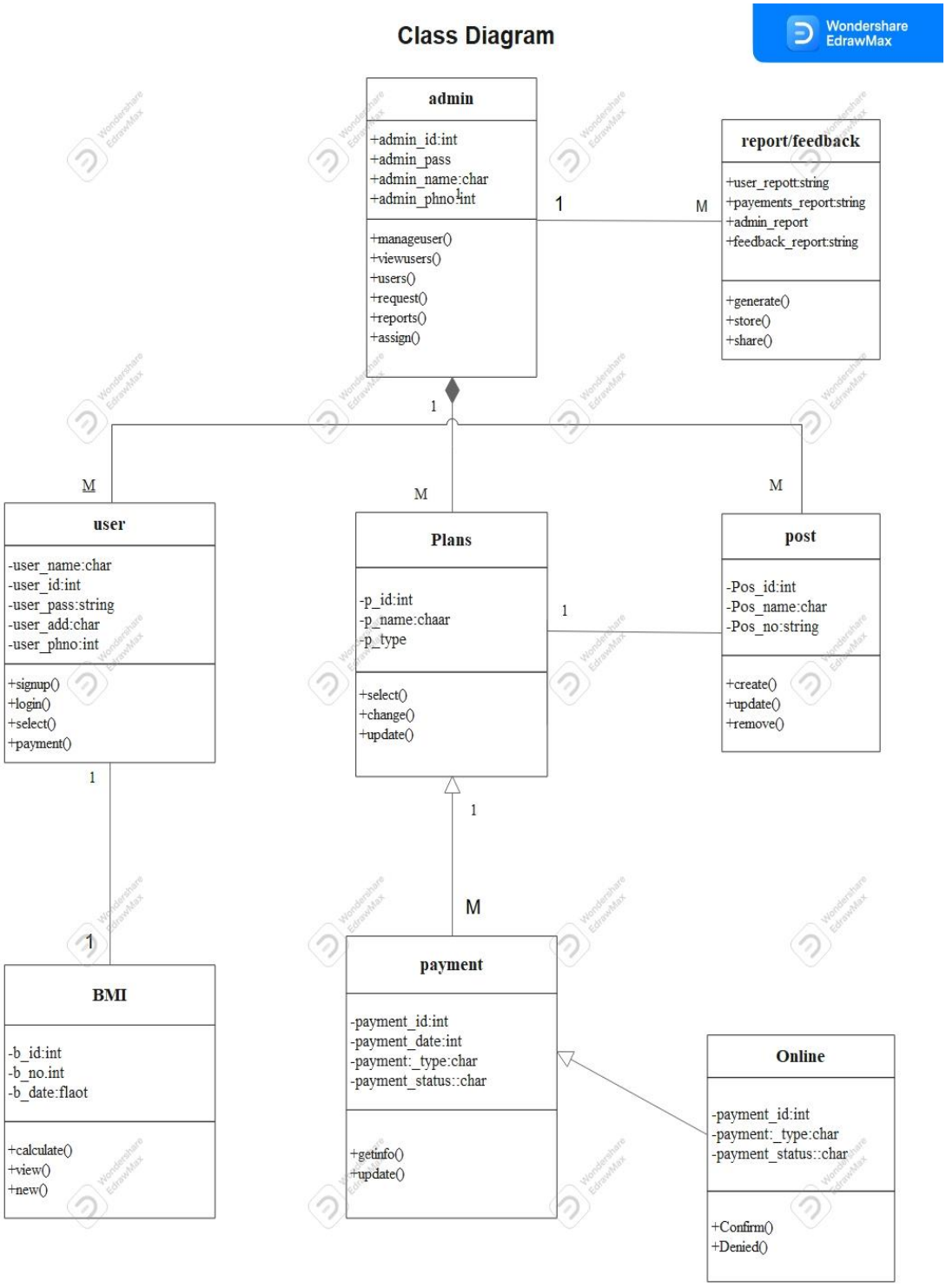
3.5.2.Sequence diagram for login page



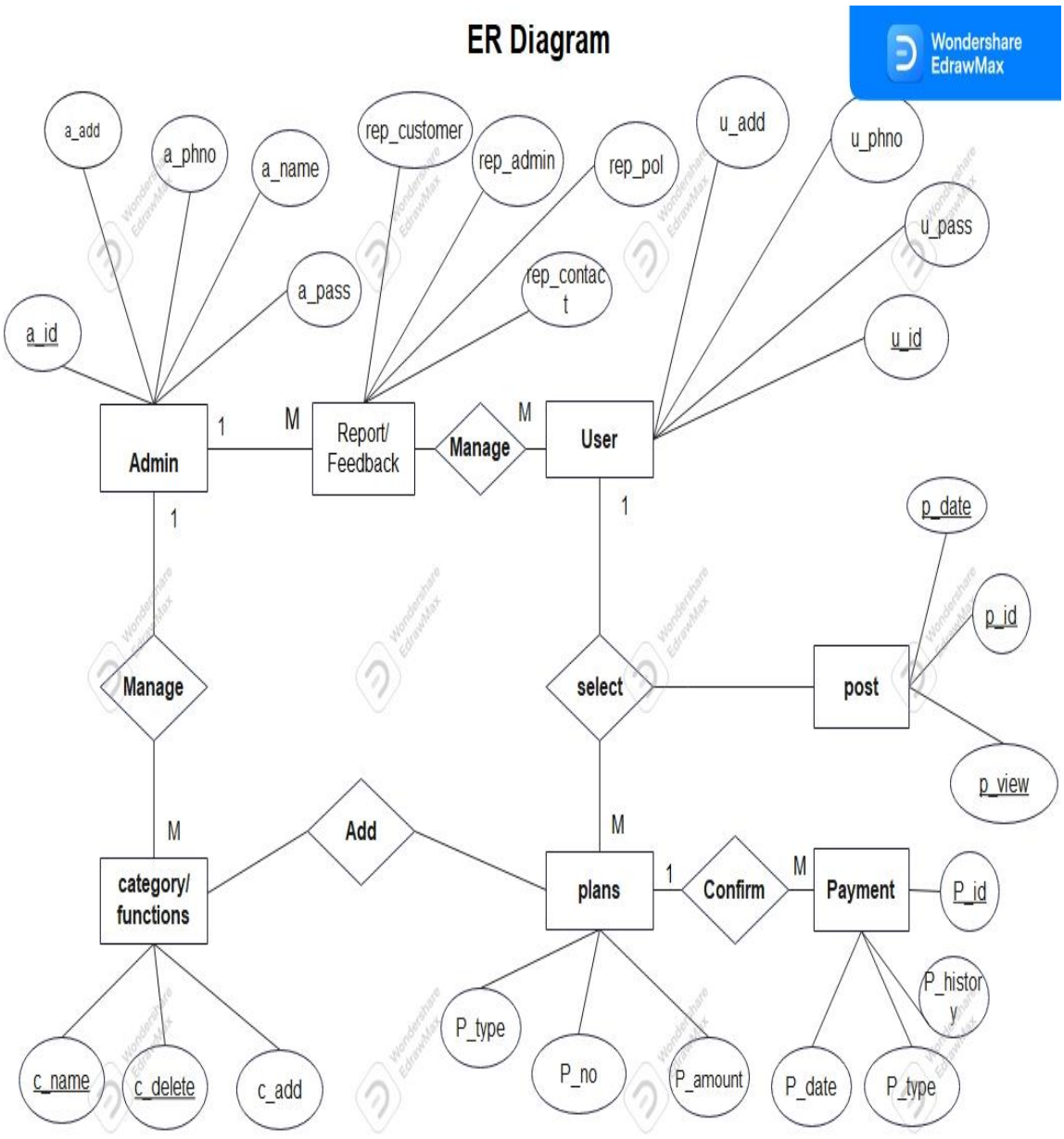
3.5.3.Sequence diagram for Admin



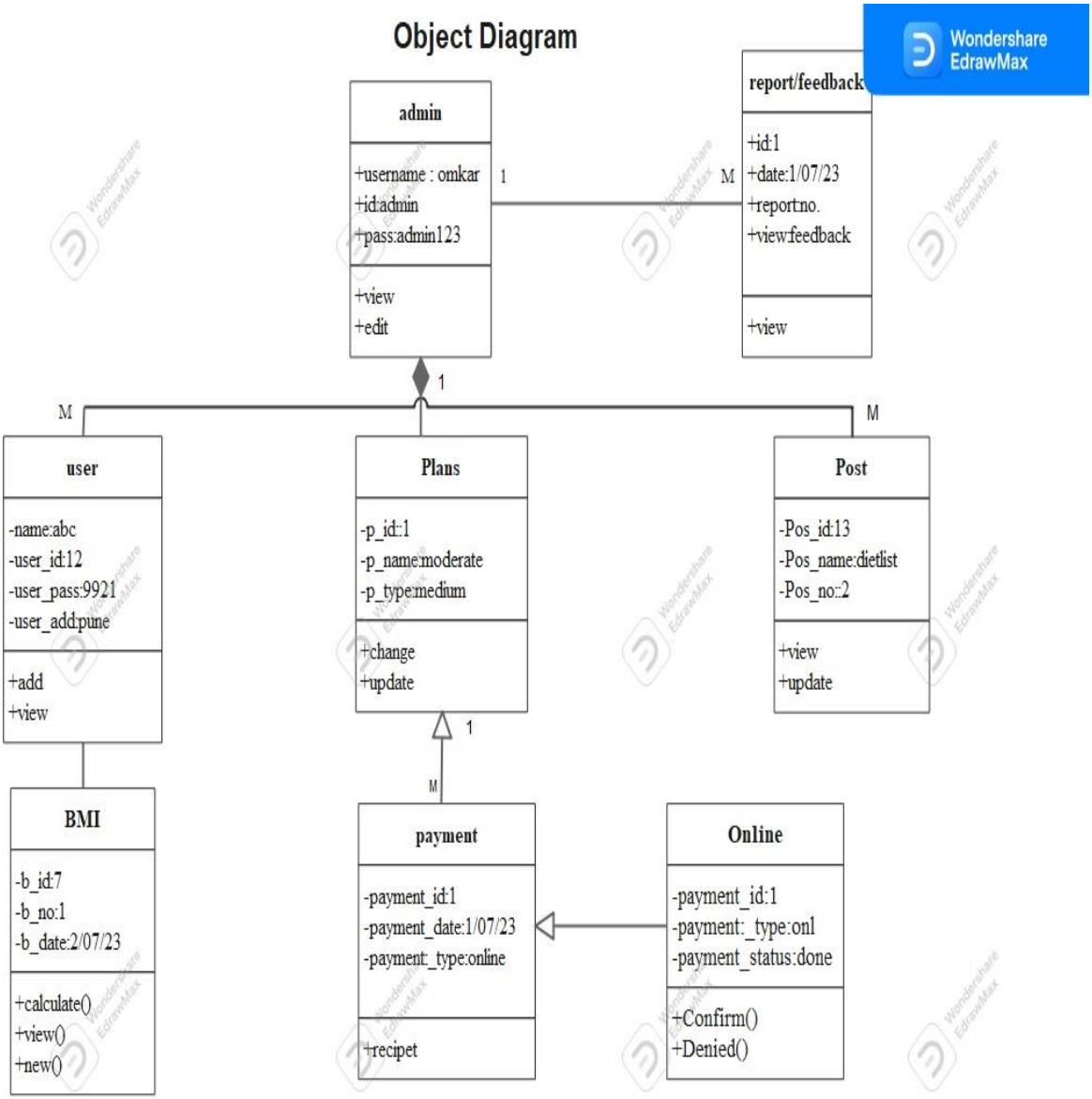
3.6. Class Diagram



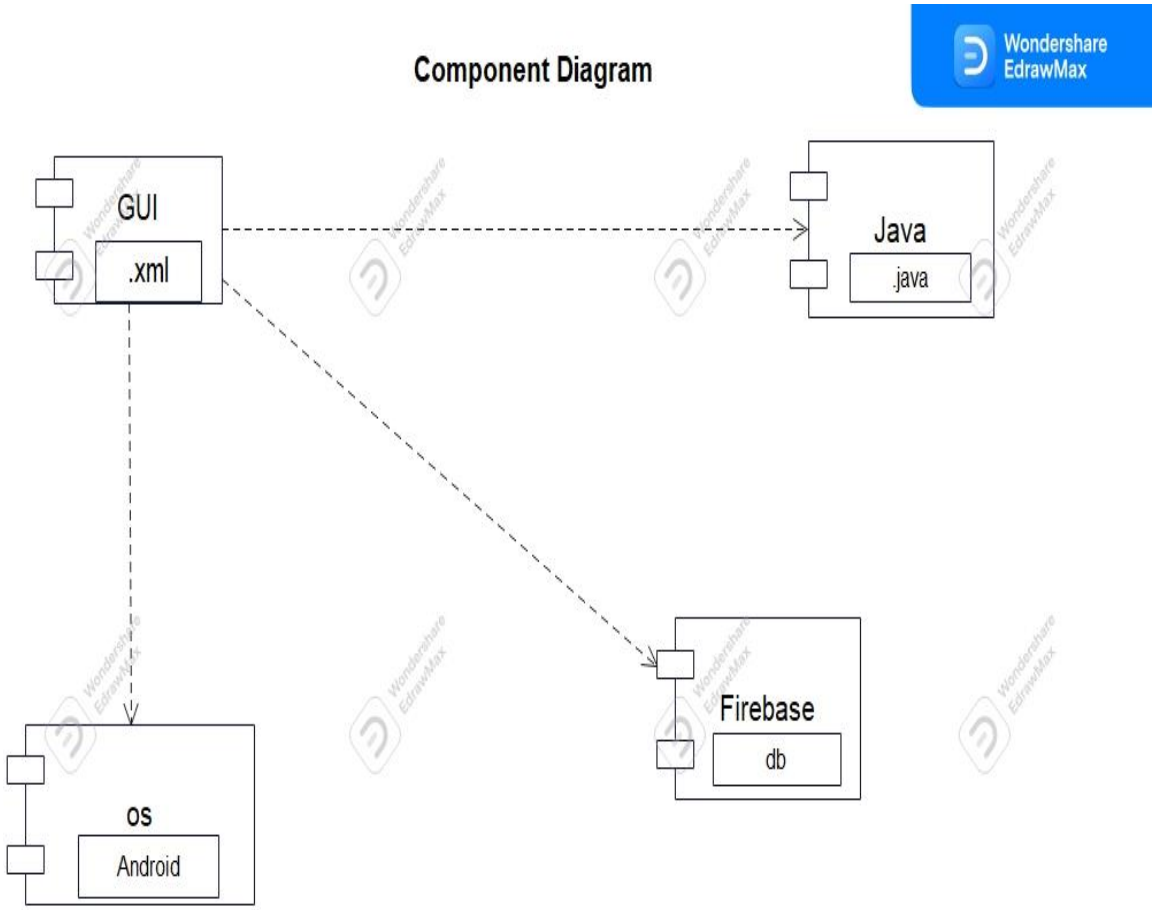
3.7. ERD Diagram



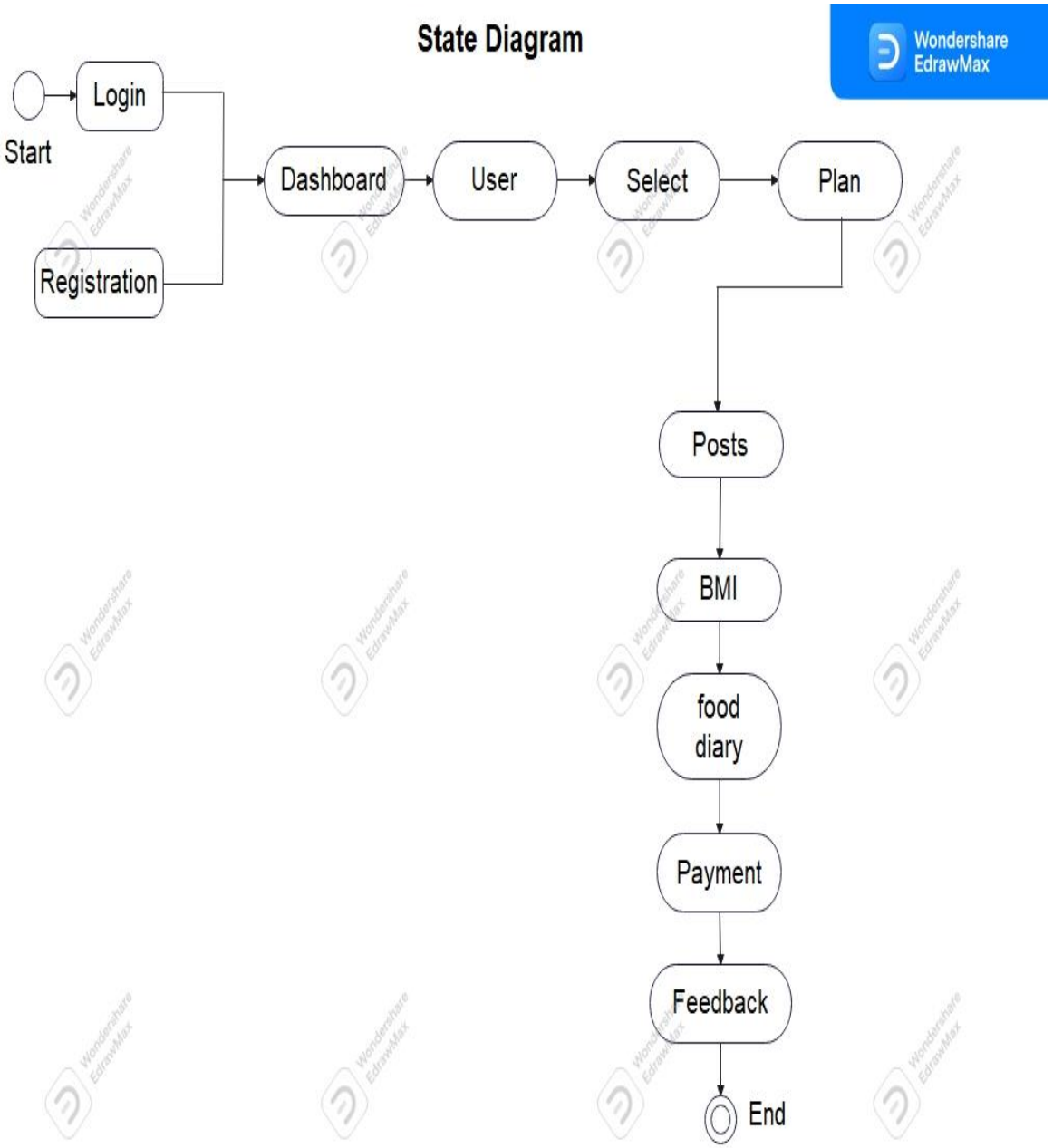
3.8.Object Diagram



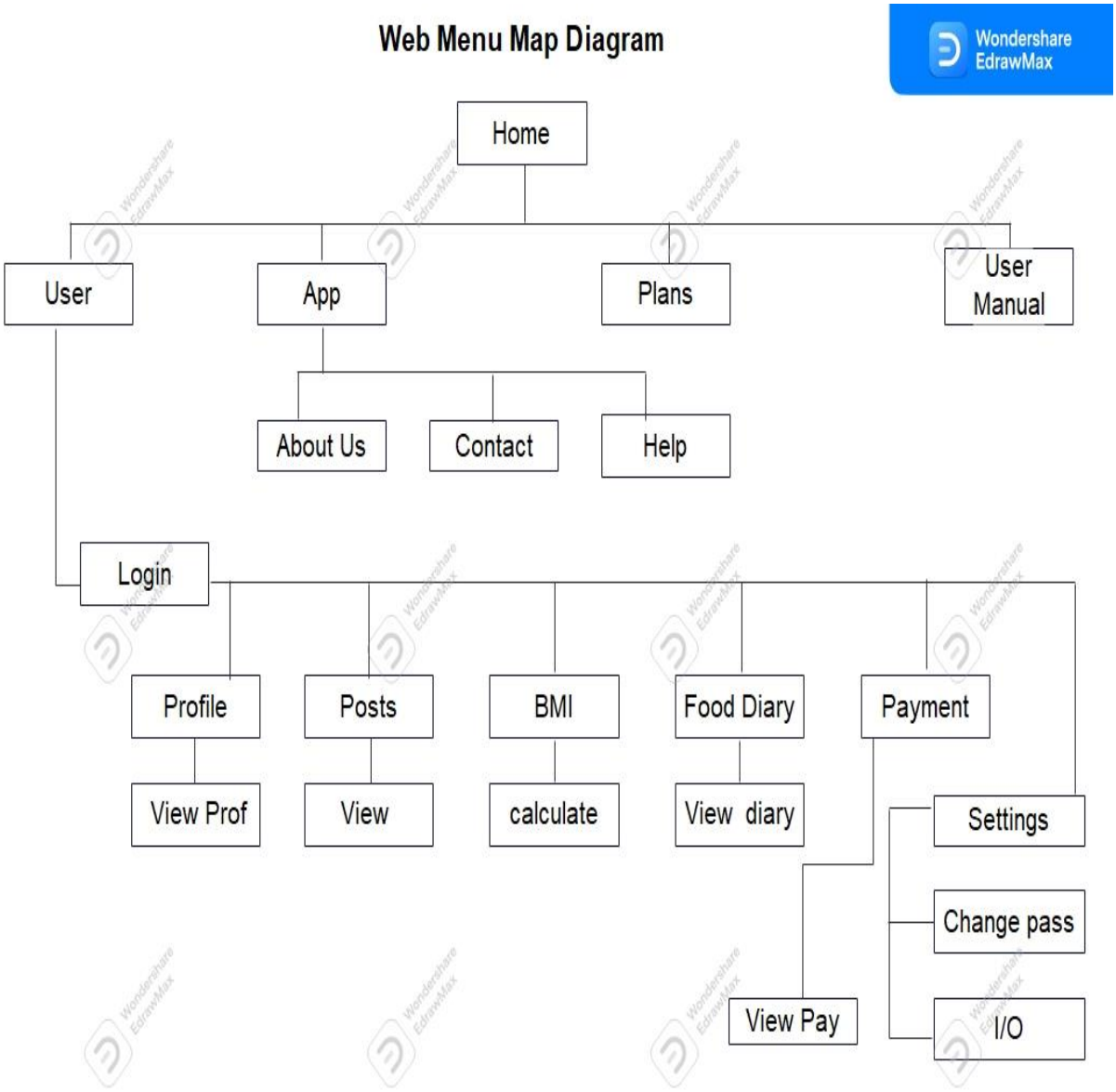
3.9.Component Diagram



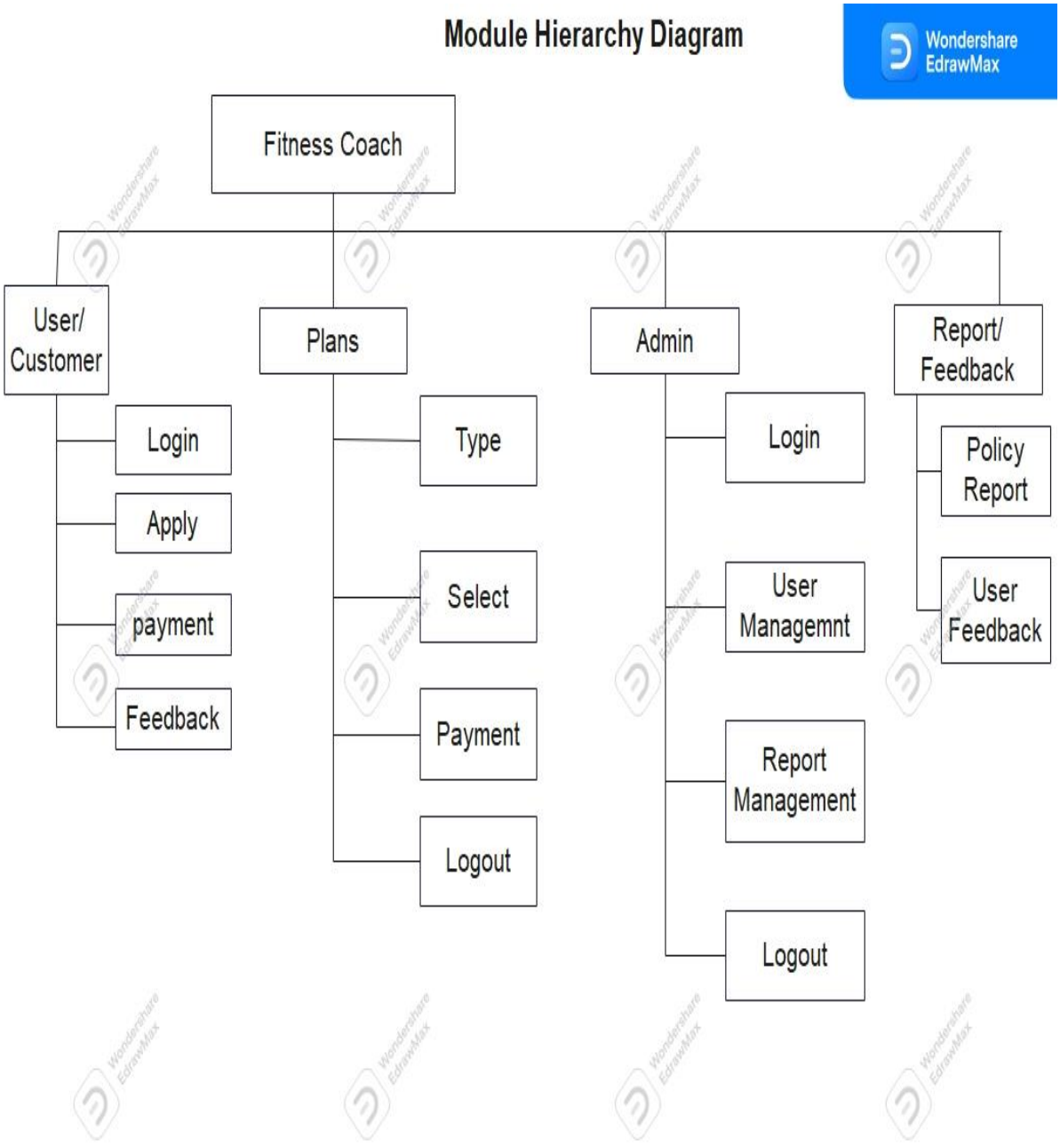
3.10.State Transaction Diagram



3.11.Web Menu Map Diagram



3.12.Module Hierarchy Diagram



3.13.Table Design/Structure

3.13.1.User Table :

Table Name		User_table		
Description		This table contains the details of Users		
Constraints		Primary key (U_ID).		
Field name	**Field type**	**Field Size**	**Constraints**	**Description**
U_id	int	5	Primary Key	It represent unique identification
U_name	varchar	10	Not Null	It represent name of user
U_email	varchar	15	Not Null	It represent mail of user
U_pass	varchar	10	Not Null	It represent pass of user
U_address	varchar	20	Not Null	It represent address
U_mobile	int	10	Not Null	It represent mobile of user

3.13.2.Admin Table :

Table Name		Admin_table		
Description		This table contains the details of admin		
Constraints		Primary key (a_ID) Foreign key(u_ID)		
Field name	Field type	Field Size	Constraints	Description
a_id	int	5	Primar Key	It represent unique identification
a_username	varchar	10	Not Null	User name of admin
a_email	varchar	15	Not Null	It represent mail of admin
a_password	varchar	10	Not Null	It represent pass of admin
U_id	int	20	Foreign Key	Unique identification of user

3.13.3.Payment Table :

Table Name	payment_table
Description	This table contains the details of payment
Constraints	Primary key (P_ID) Foreign key(U_ID)

Field name	**Data type**	**Field Size**	**Constraints**	**Description**
p_id	int	5	Primary Key	It represent id of payment
u_name	varchar	10	Foreign Key	It represent name of user
p_date_time	timestamp	10	Not Null	It shows date & time
P_type	varchar	10	Not Null	It shows type of payment

3.13.4.Feedback Table :

Table Name		feedback_table		
Description		This table contains the details of users feedback		
Constraints		Primary key (F_ID) Foreign key(U_ID)		
Field name	**Data type**	**Field Size**	**Constraints**	**Description**
F_id	**int**	**10**	**Primary key**	**It represent no of feedback**
u_id	**varchar**	**15**	**Foreign Key**	**It represent id of user**
F_date_time	**timestamp**	**10**	**Not Null**	**It shows Applied date**
U_name	**varchar**	**10**	**Not Null**	**It represent user name**

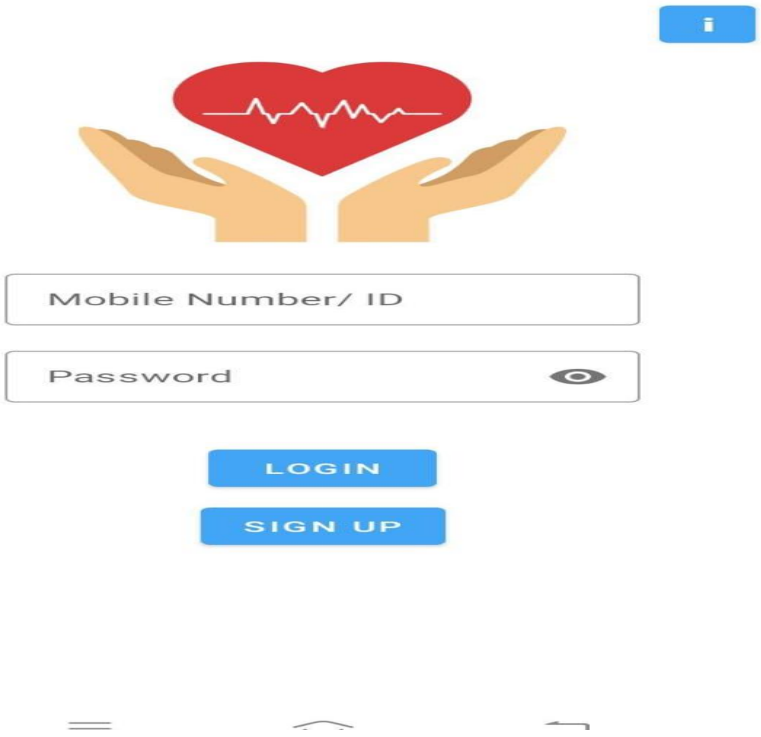
3.14.Data Dictionary :

Field name	Constraints	Table Name	Referenced in table name	Description
a_id	Primary key	Admin_table	-----	It represent unique identification
a_username	Not Null	Admin_table	-----	User name of admin
a_email	Not Null	Admin_table	-----	It represent mail of admin
a_password	Not Null	Admin_table	-----	It represent pass of admin
F_no	Not Null	Feedback_table	-----	It represent no of feedback
F_date_time	Not Null	Feedback_table	-----	It shows applied date
m_id	Not Null	Migrants_table	-----	It represent id of migrants
m_name	Not Null	Migrants_table	-----	It represent name of migrants
m_applied_date	Not Null	Migrants_table	-----	It shows Applied date
p_id	Primary key	Payment_table	-----	It represent id of payment
p_date_time	Not Null	Payment_table	-----	It shows date & time
P_type	Not Null	Payment_table	-----	It shows type of payment
U_id	Primary key	User_table	Feedback_table /admin_table	It represent unique identification
U_name	Not Null	User_table	Payment_table	It represent name of user
U_email	Not Null	User_table	-----	It represent mail of user
U_pass	Not Null	User_table	------	It represent pass of user
U_address	Not Null	User_table	------	It represent address
U_mobile	Not Null	User_table	-----	It represent mobile of user

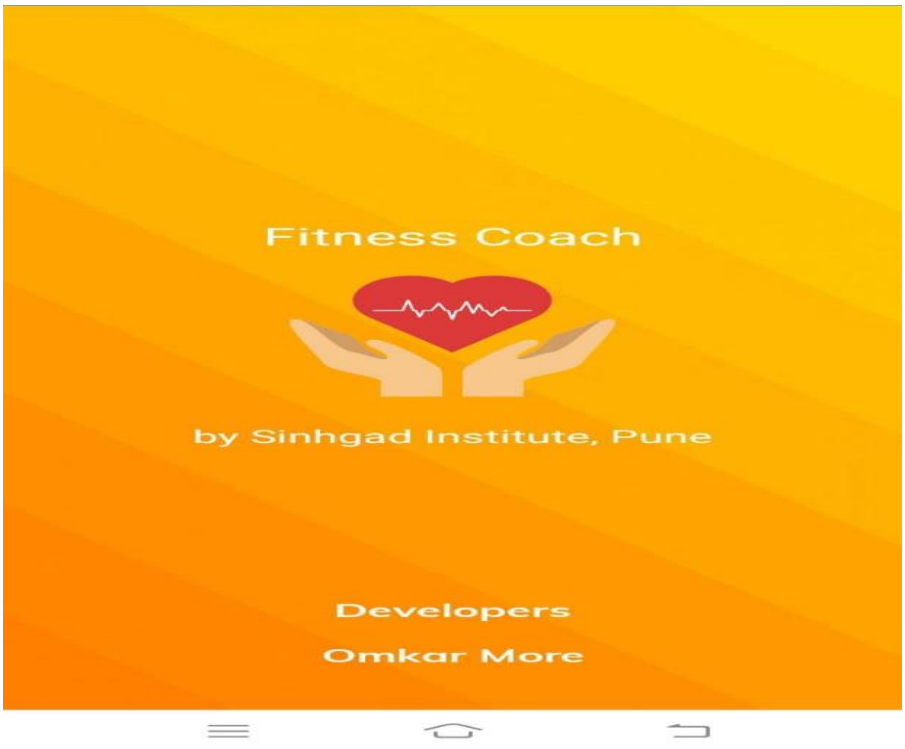
3.15. Sample Input and Output Screens

Screeen 1 : Home Page

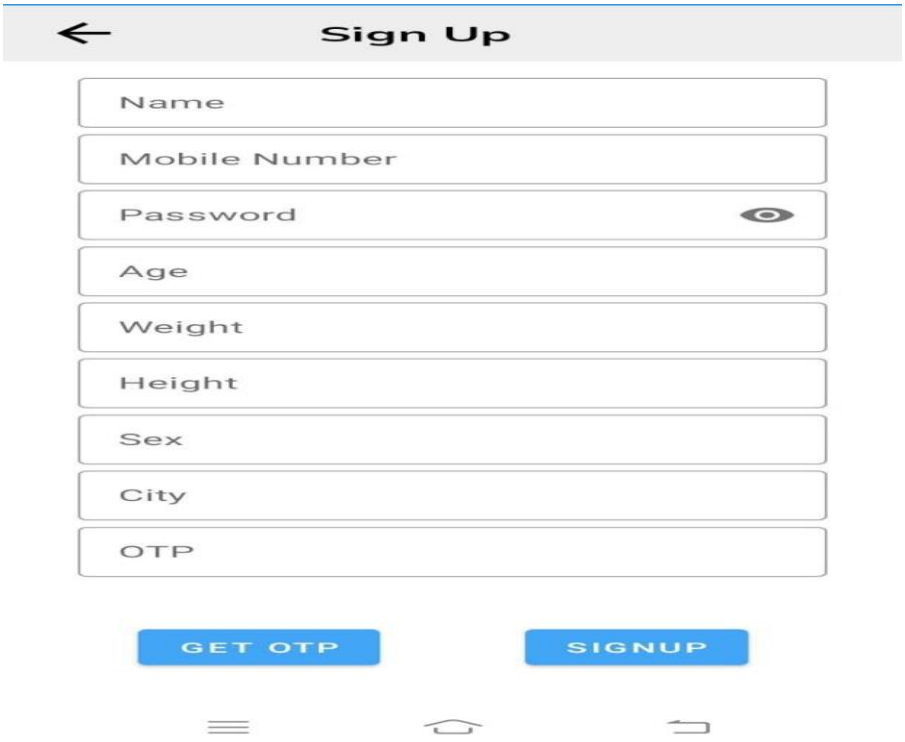
Screen 2 : Quiz Page



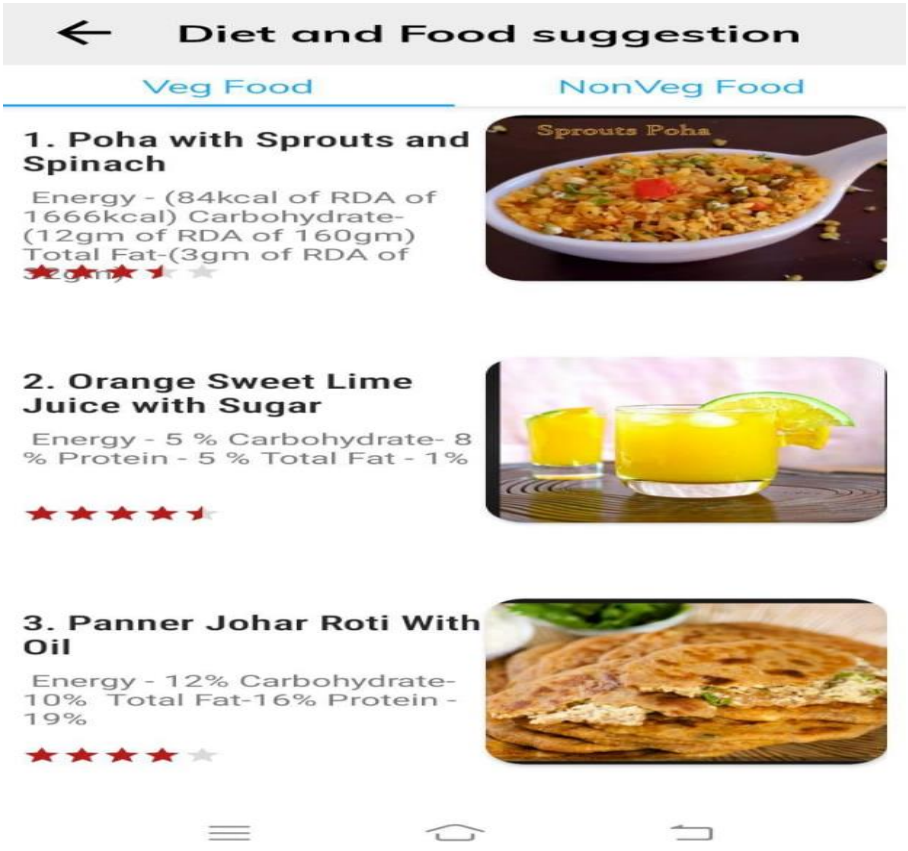
Screen 3 : Login Page



Screen 4 : Details Page

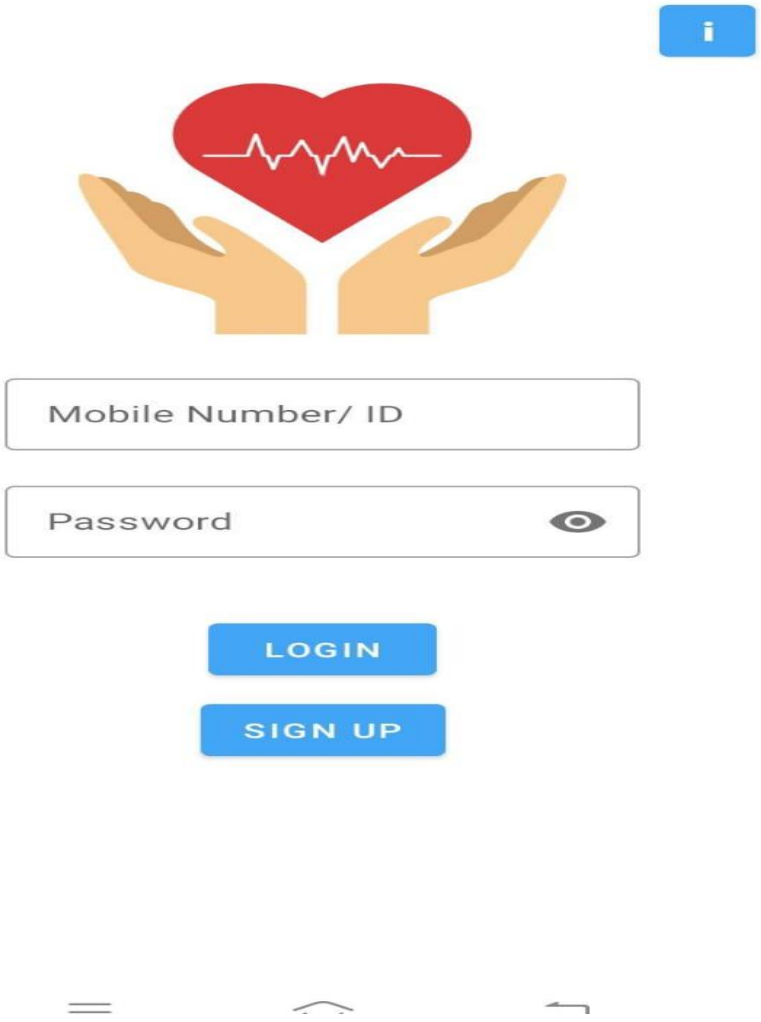


Screeen 5 : Signup Page



Screen 6 : Diet Page

CHAPTER 4: CODING Sample code



Screen 1 : SignIn.java file

1.SignIn.java file

```
package com.fitness coach.Activities;

import android.content.Intent;
import android.os.AsyncTask;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;
import com.swatitiwari.tracktofit.Common.SharedPref;
import com.swatitiwari.tracktofit.Database.User;
import com.swatitiwari.tracktofit.Database.UserDatabase;
import com.swatitiwari.tracktofit.Database.UserDatabaseClient;
import com.swatitiwari.tracktofit.R;

import java.util.ArrayList;

public class SignIn extends AppCompatActivity {


    EditText etUsername,etPassword;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_sign_in);

        SharedPref sharedPref = SharedPref.getInstance();
        if (sharedPref.getUser(this) != null) {
            startActivity(new Intent(this, MainActivity.class));
            finish();
        }

            etUsername = findViewById(R.id.tvUsername);
            etPassword = findViewById(R.id.tiePassword);
            TextView tvSignUp = findViewById(R.id.tvSignUp);
            Button btnLogin = findViewById(R.id.btnLogin);

            btnLogin.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View view) {

                    String username = etUsername.getText().toString();
                    String password = etPassword.getText().toString();
```

```
            if (!validaInputs(username, password)) return;

            LoginUserTask ut = new LoginUserTask(username, password);
            ut.execute();

        }
    });


    tvSignUp.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            startActivity(new Intent(SignIn.this, SignUp.class));
        }
    });

}

private boolean validaInputs(String username, String password) {

    if (username.isEmpty()){
        Toast.makeText(this, getString(R.string.username_cannot_empty),
Toast.LENGTH_SHORT).show();
        return false;
    }

    if (password.isEmpty()){
        Toast.makeText(this, getString(R.string.password_cannot_empty),
Toast.LENGTH_SHORT).show();
        return false;
    }

    return true;
}

class LoginUserTask extends AsyncTask<Void, Void, Void> {

    private final String username;
    private final String password;
    private ArrayList<User> users = new ArrayList<>();

    public LoginUserTask(String username, String password) {
        this.username = username;
        this.password = password;
    }

    @Override
    protected Void doInBackground(Void... voids) {
        UserDatabase databaseClient =
UserDatabaseClient.getInstance(getApplicationContext());
```

```
            users = (ArrayList<User>) databaseClient.userDao().observeAllUser();
            return null;
        }

        @Override
        protected void onPostExecute(Void aVoid) {
            super.onPostExecute(aVoid);
            for (User user : users){
                if (username.equals(user.getUsername()) &&
password.equals(user.getPassword())){
                    SharedPref sharedPref = SharedPref.getInstance();
                    sharedPref.setUser(SignIn.this,user);
                    startActivity(new Intent(SignIn.this,MainActivity.class));
                    return;
                }
            }
            Toast.makeText(SignIn.this, "User not exist", Toast.LENGTH_SHORT).show();

        }
    }

    @Override
    public void onBackPressed() {
        super.onBackPressed();
       // startActivity(new Intent(SignIn.this, FitnessMainActivity.class));
        finish();
    }
}
```

CHAPTER 5: LIMITATONS OF SYSTEM

The standard limitation of the App base application is that the data won't be retrieved or submitted if failed network connectivity to open app, We Required Activate Internet Connection. It's essential for users to be aware of these limitations and use fitness coach apps as tools to complement a healthy lifestyle rather than relying solely on them. Additionally, it's a good practice to consult with a healthcare or fitness professional for a comprehensive and personalized approach to fitness and health.

1.Dependence on Technology: Fitness coach apps can make users overly dependent on technology, potentially discouraging them from engaging in physical activity without the app.

2.Inaccurate Data: The accuracy of data collected by the app, such as step counts or calorie burn estimates, can vary and may not always be precise.

3.Lack of Human Interaction: While these apps can provide guidance and motivation, they often lack the personal touch and human interaction that a real fitness coach or trainer can offer.

4.Limited Customization: While many apps offer personalized plans, they may not account for all individual factors and preferences, leading to suboptimal recommendations

CHAPTER 6: PROPOSED ENHACEMENTS

The development of this new system contains the following activities, which try to automate the entire process keeping in the view of database integration approach.

- The system makes the overall project management much easier and flexible.
- The user information can be stored in firebase database which can be maintained by the system.
- This can give the good security for user information because data is not in client machine.
- Authentication is provided for this application only registered Users can access.
- There is no risk of data management at any level while the project development is under process.
- The automated system will provide to the customers for reliable services.

CHAPTER 7: CONCLUSION

In conclusion, the development of a fitness coach app using Android Studio represents a significant step forward in leveraging technology to promote healthier lifestyles and empower users to achieve their fitness goals. Throughout the project, we have seen the potential of such an app in providing personalized guidance, tracking progress, and offering motivation in a convenient and accessible manner.

However, it's essential to recognize that a fitness coach app is a tool, not a magic solution. While it can offer valuable insights, training plans, and nutritional guidance, it is ultimately up to the users to commit to their health and fitness journeys. The success of the app depends on the dedication and consistency of its users.

CHAPTER 8: BIBLIOGRAPHY

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