OBJECT ORIENTED PROGRAMMING
CSL-210

PROJECT REPORT

HEALTH FITNESS SYSTEM

GROUP MEMBERS

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ACKNOWLEDGMENT

In the beginning we would like to thank our ALLAH, the most merciful and beneficent, for giving us the strength to complete this project with full determination. This project consumed huge amount of work, research, dedication and implementation if we did not have a support of many individuals. Therefore we would like to extend our sincere gratitude to all of them.

We would also like to thanks our teacher **MA'AM SALAS AKBAR** &**MA'AM SAMEENA JAVED** for giving us an opportunity to practically apply our knowledge of (Object Oriented Programming) which also helped us in doing a lot of Research without his help and guidance we would not have been able to complete the project and report up to the mark and we came to know about so many new things we're really thankful to him.

We would like to express our deepest appreciation to all those who provided us the possibility to complete this report.

TABLE OF CONTEXT

INTRODUCTION

PROJECT OBJECTIVES

The Objective of this project is to make a Health fitness system that is going to be a very useful system for the people who are interested in physical fitness. This fitness system is a guide to its users for being physically fit. This system allows its user to make their account so that they can save their progress and access it any time. It has multiple option and workout for their users for example lose fat, mass gaining, full body workout, chest workout, shoulder workout etc. It further creates diet plan, workout plan, sleep routine etc for its users. The main objective to use this system is to make it easier for the users to get an easy and low cost plan for their fitness and workout without arranging a fitness trainer and can save and access their progress any time.

SCOPE OF PROJECT

PURPOSE

The Health fitness system was created to assist people in increasing their physical health by maintaining their physical fitness by providing them with best training and exercise plans. This system is a full guide from beginner level to intermediate and till advance level for people who are interested in muscle building, mass gaining, weight losing and physical fitness. It was created

1. To make users tasks easier.
2. To save time of their users.
3. To introduce the users with a system that can be operated remotely anywhere anytime.
4. Lastly to save their budget on expensive trainer.

SCOPE DISCRIPTION

Our scope is to create a system for the users that can be remotely operated anywhere anytime for example at home or gym etc. The main scope of creating this system that willallow the users to sign up and login and then access all the users interfaces present in system and in this way the system will have their information and will save their progress that can be accessed by

them anytime when the users logs in. Following are the name and some description of the user interfaces and forms created in the system.

1. **Welcome form**: First view of the system, provides signup and login options.

2. **Signup form 1:**This is the initial state of signup where system asks your personal information like name, email, password and mobile number for making your account.

3. **Signup form 2:**This is the second stage of signup where the system asks your gender, age, height and weight.

4. **Signup form 3:**This is the third stage of signup where the system ask whether you want to make a premium or regular account.

5. **Login form:**In the login form the system asks you for the email and password to access your existing account.

6. **Home form:**On the top of the home page the system greets you and below that displays your hour of sleep and glasses of water. On the bottom of home page you will have buttons linked to Workout page, Nutrition page, Home page and Stats page.

7. **Workout form:** Workout form displays your height and weight on the top, it also display workout routine and exercises. The exercise panel is further linked to exercise page.

8. **Exercise form:** The exercise form contains all the exercise you have to complete. By clicking on any exercise you willgo to exercise detail page.

9. **Exercise detail form:** In the exercise detail page you will get the name and image description the exercise on the top and procedure of the exercise below the image and then on the bottom there will be add button and my routine button.

10. **Nutrition form:** The Form tells about the nutrition you want to add or the nutrition you have to take

11. **Stats form:** The form tells your status that is username, email, password etc.

PROJECT DELIVERABLES

- The Health Fitness system application is users friendly and easy to use.
- This application can be accessed remotely anywhere anytime with the help of a computer or a laptop.
- This application can also be used by the users as a guide for their physical traning to increase their physical strength, abilities and fitness.

DATABASE

DATABASE EXPLANATION

ConnectionProvider:

Connection establishConnection():-
Allows the application to, establish a connection with the database.

DBOperations:

void setDataOrDelete(String Query, String msg)-
Receives a connection to the database, and accepts parameters for querying INSERT, UPDATE, and DELETE operations and display a message.

ResultSet getData(String Query)-
Receives a connection to the database, and accepts parameters for querying SELECT operations and display a message.It returns the ResultSet generated.

UserDAO(user):

void save(User user)-
Inserts user ‘s data into the database.

User login(String email, String password)-
Performs a SELECT query on the database to confirm if the user credentials entered at login are correct.

void updatePassword(User user, String password)-
UPDATEs user's password.

void updateUser(User user)-
UPDATEs user's data.

ExerciseDAO :

ArrayList<Exercise> getExercises()-
SELECTs list of all the exercises present in the database.

Exercise getExercise(int id)-
SELECTs an exercise based on the id passed in as a parameter.

void saveRoutine(User user,Exercise exercise)-
INSERT an exercise into the user's routine

void deleteRoutine(User user)-
DELETEs the user's routine.

ArrayList<Exercise> getRoutine(User user)-
Gets the list of all the exercises in the user's routine.

SleepDAO :

void save(User user, Sleep sleep)-
INSERTs sleep data into the database.

ArrayList<Sleep> getSleepData(User user)-
SELECTs sleep data from the database for the given user.

NutritionDAO:

ArrayList<Nutrition> getAllData()-
Gets the list of info for all the food items in the nutrition table

ArrayList<Nutrition> filterAllDataByName(String name)-
Gets the list of info for certain food items.

Nutrition getNutritionByName(String name)-
SELECTs a certain food item from the database.

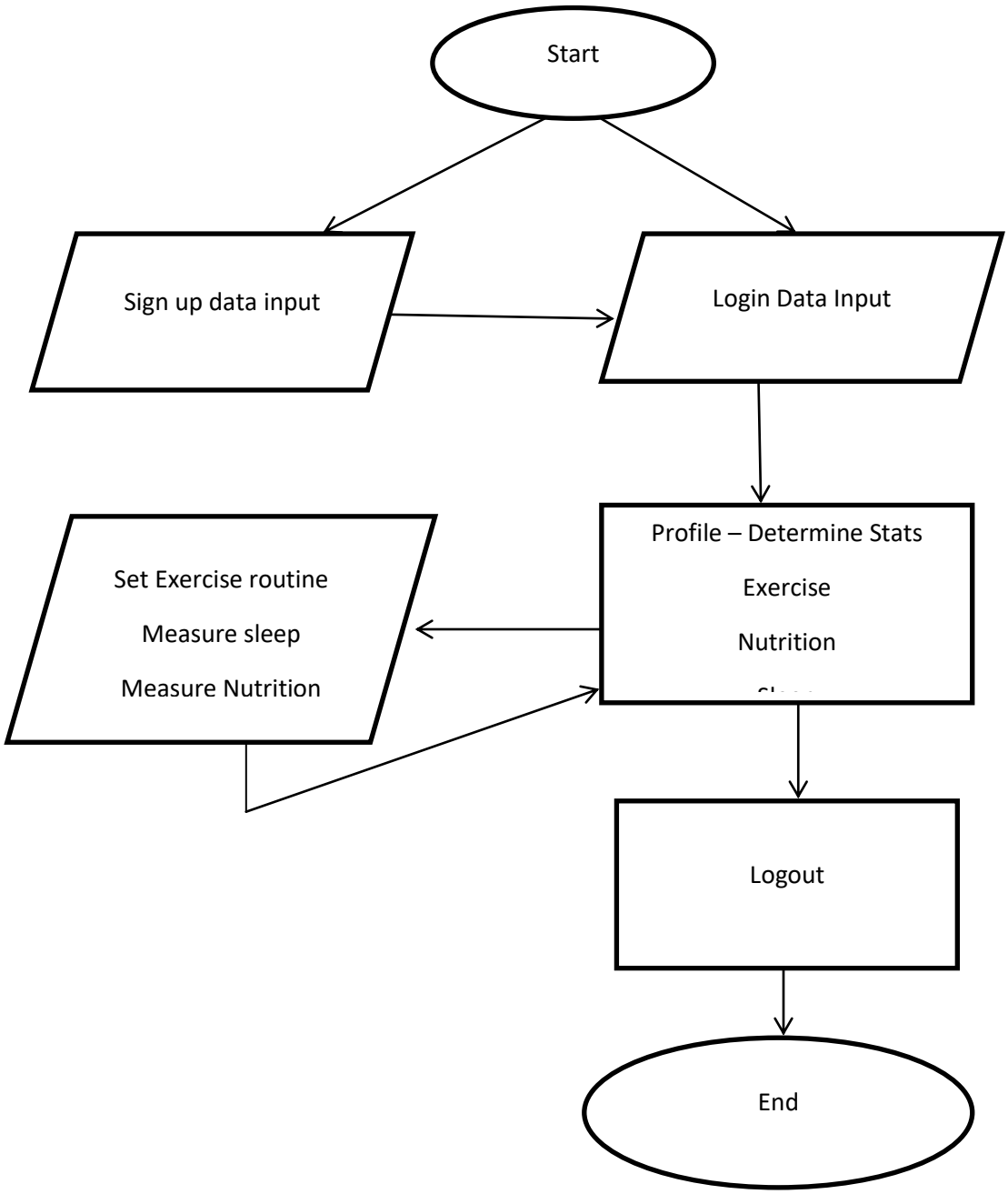
void save(User user,Nutrition nutrition)-
Save Calorie intake data into the database.

ArrayList<Nutrition> filterAllDataByDate(String date)-
Filters Calorie intake data based on date.

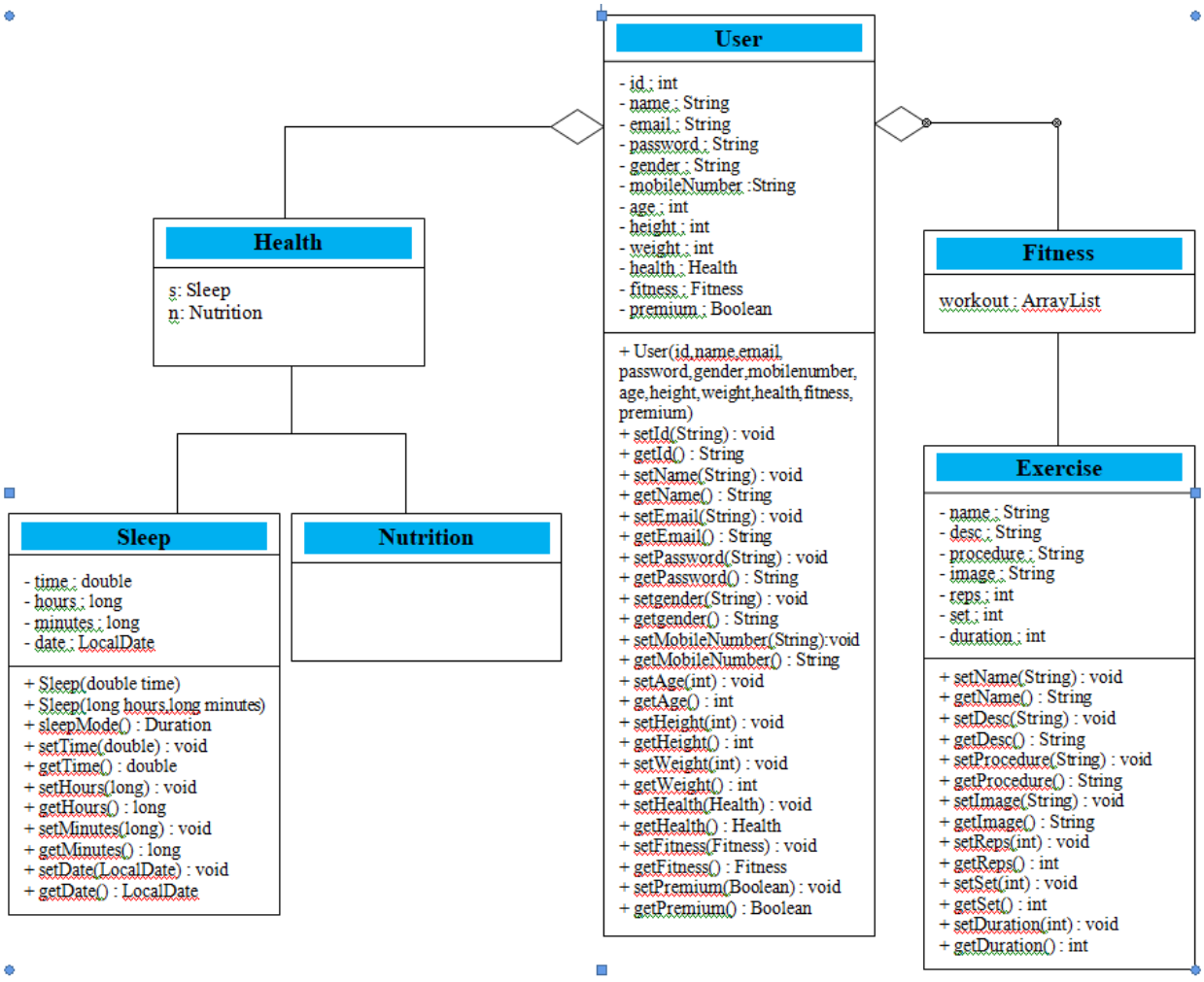
ArrayList<Nutrition> getCalIntakeData(User user)-
Get All the data for calorie intake for a user.

METHODOLOGY

DATA FLOWCHART DIAGRAM



UML DIAGRAM



WORKING OF PROJECT

SOFTWARE REQUIRMENTS

The software requirements for this project are as follows

- **Netbeans IDE**
- **JDE and JDK**
- **Windows 10**

CONCEPTS USED IN PROJECT

The concepts used in the project are as follows

- **Graphical User Interface (GUI)**

WORKING

First of all user will create a new account and then log in to the account. User has two choices, regular account or premier account. Premier account has some special functions. After log in to their account, home page will appear in which there are some buttons for different functions: Profile, sleep, nutrition and exercise. User can update their information from profile, user can add nutrition intake also see their record (for premium only) from nutrition button. User can add exercise routine and their workout from exercise button. User can manage their sleeping schedule from sleep button. User can also view their sleeping hours (for premium only).

So this app is very useful for every users. They can manage their health and fitness routine from this app. Also premium account is available for our special users.

SOURCE CODE OF PROJECT

USER CLASS

```
package project.UserDetails;

/**
 *
 * @author perfect solution
 */
public class User {
    private int id;
    private String name,email,password, gender,mobileNumber;
    private int age=1;
    private int height,weight;
    private boolean premium;


    public int getId() {
        return id;
    }

    public void setId(int id) {
        this.id = id;
    }
```

```
    public User(int id,String name, String email, String password, String gender, String mobileNumber, int age, int height, int
weight, boolean premium) {
        this.id = id;
        this.name = name;
        this.email = email;
        this.password = password;
        this.gender = gender;
        this.mobileNumber = mobileNumber;
        this.age = age;
        this.height = height;
        this.weight = weight;
        this.premium = premium;
    }



    public String getMobileNumber() {
        return mobileNumber;
    }

    public void setMobileNumber(String mobileNumber) {
        this.mobileNumber = mobileNumber;
    }



    public User() {
    }

    public String getEmail() {
        return email;
    }
```

```
public void setEmail(String email) {
    this.email = email;
}

public String getPassword() {
    return password;
}

public void setPassword(String password) {
    this.password = password;
}




public String getName() {
    return name;
}

public void setName(String name) {
    this.name = name;
}

public String getGender() {
    return gender;
}

public void setGender(String gender) {
    this.gender = gender;
}

public int getAge() {
    return age;
}
```

```
    public void setAge(int age) {
        this.age = age;
    }

    public int getHeight() {
        return height;
    }

    public void setHeight(int height) {
        this.height = height;
    }

    public int getWeight() {
        return weight;
    }

    public void setWeight(int weight) {
        this.weight = weight;
    }



    public boolean isPremium() {
        return premium;
    }

    public void setPremium(boolean premium) {
        this.premium = premium;
    }
}
```

EXERCISE CLASS

```
package project.UserDetails;
```

```
/**
 *
 * @author perfect solution
 */
public class Exercise {
    private int id;
    private String name,desc,procedure,image;
    private int reps, set, duration;

    public int getId() {
        return id;
    }

    public void setId(int id) {
        this.id = id;
    }




    public String getName() {
        return name;
    }

    public String getProcedure() {
        return procedure;
    }

    public void setProcedure(String procedure) {
        this.procedure = procedure;
    }

    public void setName(String name) {
        this.name = name;
    }
```

```
public String getDesc() {
    return desc;
}

public void setDesc(String desc) {
    this.desc = desc;
}

public int getReps() {
    return reps;
}

public void setReps(int reps) {
    this.reps = reps;
}

public int getSet() {
    return set;
}

public void setSet(int set) {
    this.set = set;
}

public int getDuration() {
    return duration;
}

public void setDuration(int duration) {
    this.duration = duration;
}

public String getImage() {
    return image;
}
```

```
    public void setImage(String image) {
        this.image = image;
    }

}
```

NUTRITION CLASS

```
package project.UserDetails;

import java.sql.Date;
import java.time.LocalDate;

/**
 *
 * @author perfect solution
 */
public class Nutrition {

    private int id;
    private String name;
    private String cal;
    private String quantity;
    private String unit;
    private String date;

    public int getId() {
        return id;
    }

    public void setId(int id) {
        this.id = id;
    }
```

```
public String getName() {
    return name;
}

public void setName(String name) {
    this.name = name;
}

public String getCal() {
    return cal;
}

public void setCal(String cal) {
    this.cal = cal;
}

public String getQuantity() {
    return quantity;
}

public void setQuantity(String quantity) {
    this.quantity = quantity;
}

public String getUnit() {
    return unit;
}

public void setUnit(String unit) {
    this.unit = unit;
}

public String getDate() {
    return date;
}
```

```
    public void setDate(String date) {
        this.date = date;
    }

}
```

SLEEP CLASS

```
package project.UserDetails;

import java.io.IOException;
import java.time.Duration;
import java.time.Instant;
import java.time.LocalDate;
import java.time.LocalDateTime;

import javax.swing.JOptionPane;
import org.openide.util.Exceptions;

/**
 *
 * @author perfect solution
 */
public class Sleep {
    private double time;
    private long hours;
    private long minutes;
    private LocalDate date;

    public Sleep() {

    }
```

```
public Sleep(Float time) {
    this.time = time;
    hours = time.longValue();
    minutes = (long) ((time - hours)*60);
}

public Sleep(long hours, long minutes) {
    this.hours = hours;
    this.minutes = minutes;
    this.time = hours + minutes/60;
}

public double getTime() {
    return time;
}

public void setTime(double time) {
    this.time = time;

}

public long getHours() {
    return hours;
}

public void setHours(long hours) {
    this.hours = hours;
}

public long getMinutes() {
    return minutes;
}

public void setMinutes(long minutes) {
    this.minutes = minutes;
```

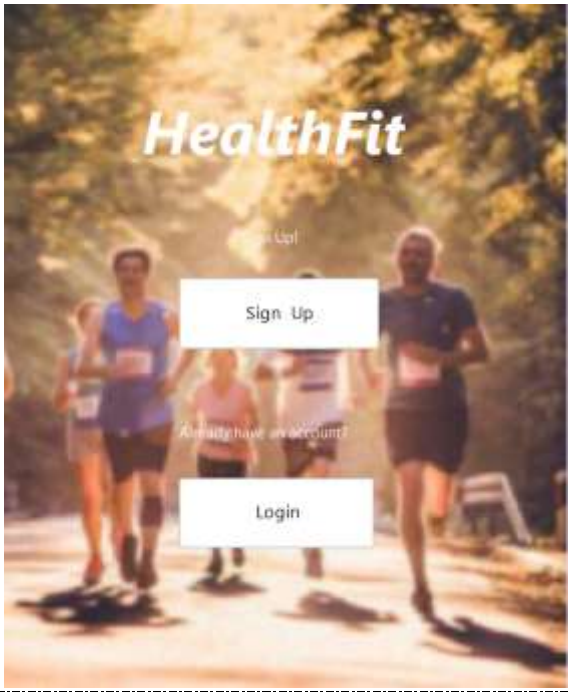
```
}



public Duration sleepMode() {
    /*
     LocalTime currentTime = LocalTime.now();
    System.out.println("Current time: " + currentTime);
     */

    Runtime runtime = Runtime.getRuntime();
    Instant start = Instant.now();



    try {
        runtime.exec("rundll32.exe powrprof.dll,SetSuspendState 0,1,0");
    } catch (IOException ex) {
        Exceptions.printStackTrace(ex);
    }



    JOptionPane.showConfirmDialog(null,
            "End Sleep Mode?",
            "Sleep Mode",
            JOptionPane.DEFAULT_OPTION,
            JOptionPane.PLAIN_MESSAGE);

    Instant end = Instant.now();
    date = LocalDate.now();

    Duration timeElapsed = Duration.between(start, end);
    this.hours = timeElapsed.toHours();
    this.minutes = timeElapsed.toMinutes() % 60;
    this.time = (double)hours + (double)minutes/60;
```

```
        System.out.println("Time elapsed: " + hours + " hours and " + minutes + " minutes");
        return timeElapsed;

    }

    public LocalDate getDate() {
        return date;
    }

    public void setDate(LocalDate date) {
        this.date = date;
    }
}
```

SCREENSHOT OF FORMS

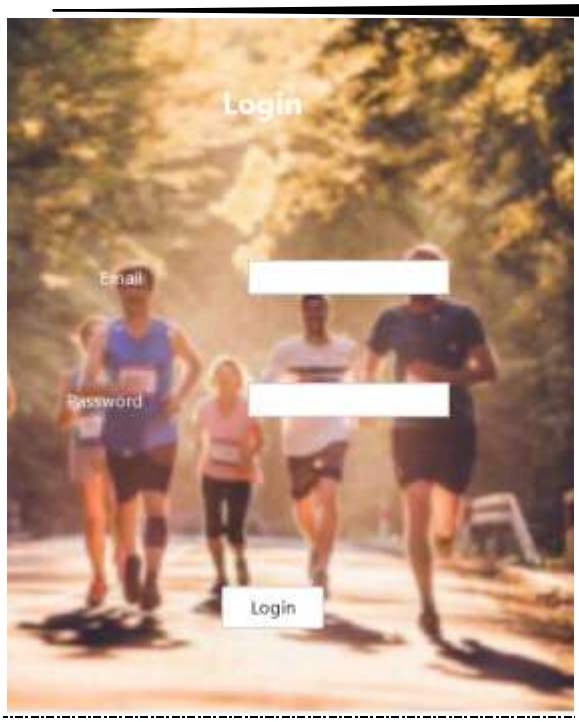
Welcomefrm

This is the welcome page.Here you can sign up and login the Application



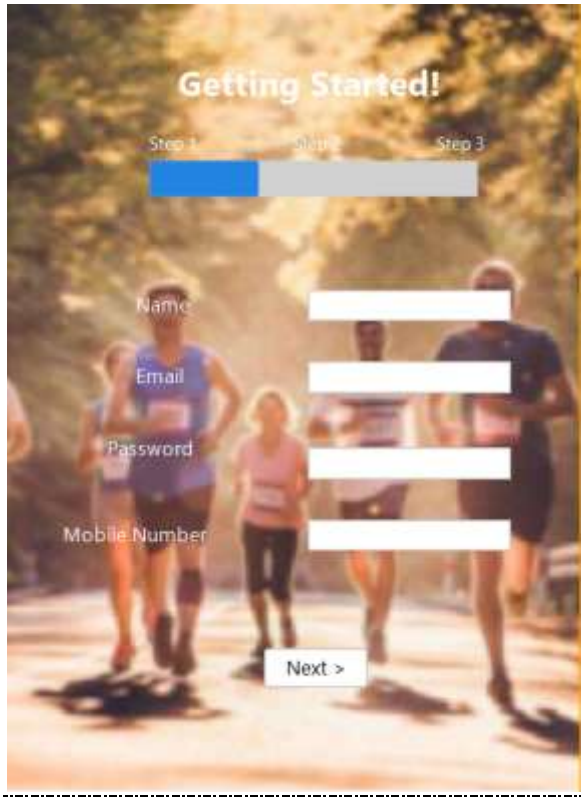
Loginfrm

This is the login page. Here you can login if you already have an account.



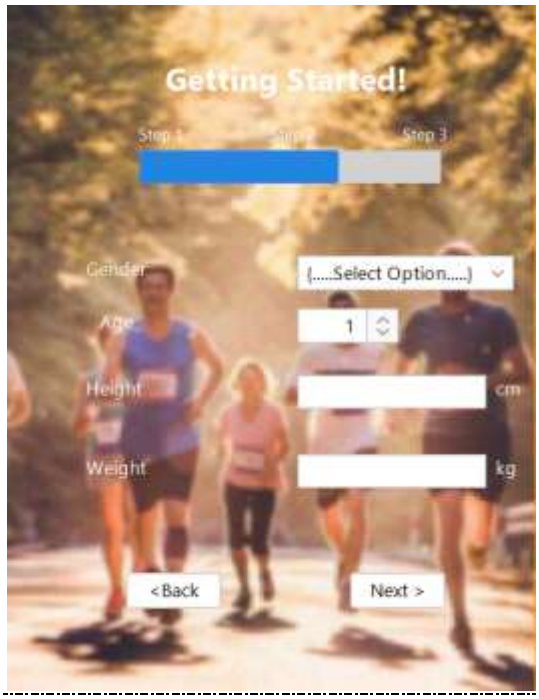
Signupfrm1

This is the signup page 1. If you haven't made an account you can make by using the sign up page which has three steps signup page 1,2,3.



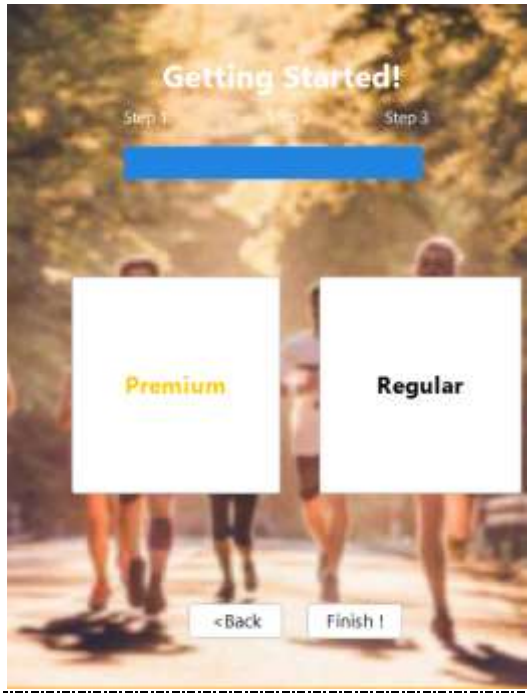
Signupfrm2

This is signup page 2. Here are the futher steps to make the account.



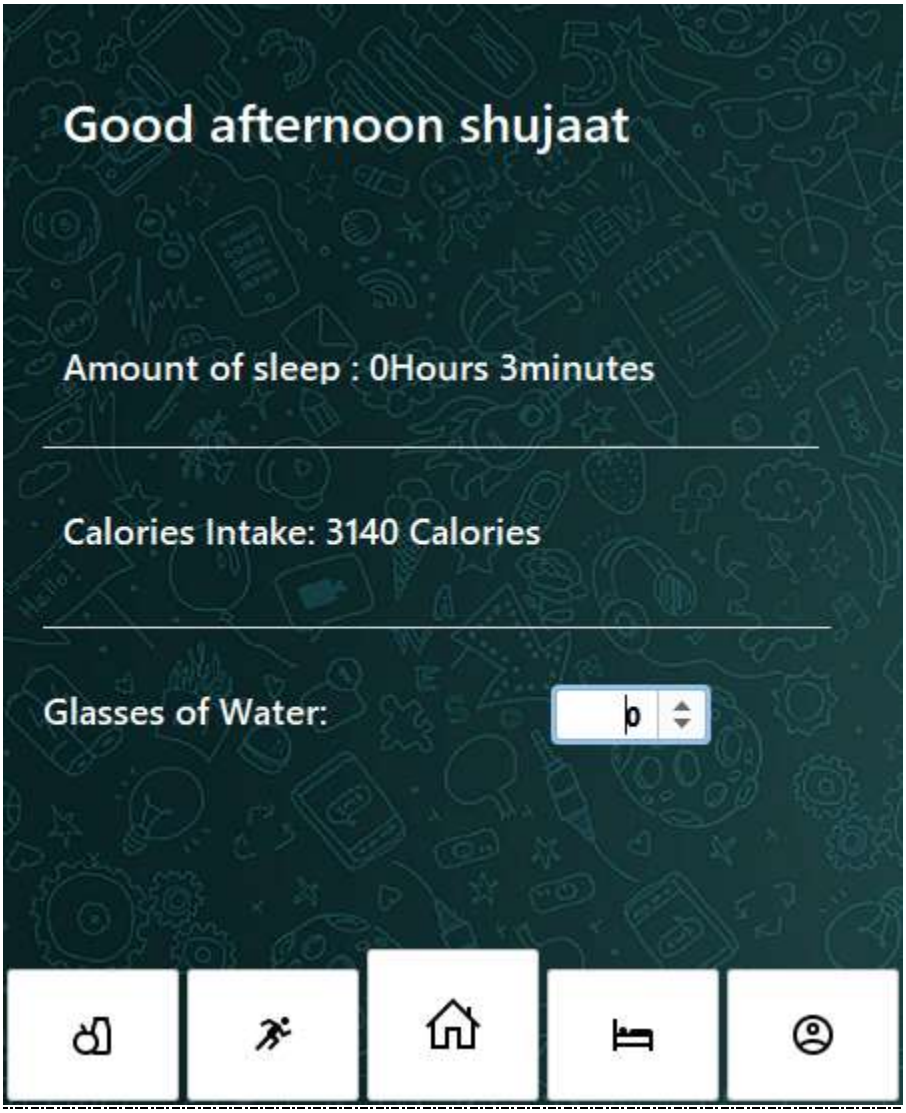
Signupfrm3

This is signup page 3.This is the final step to make an account, here you only have to select the premium or regular account.



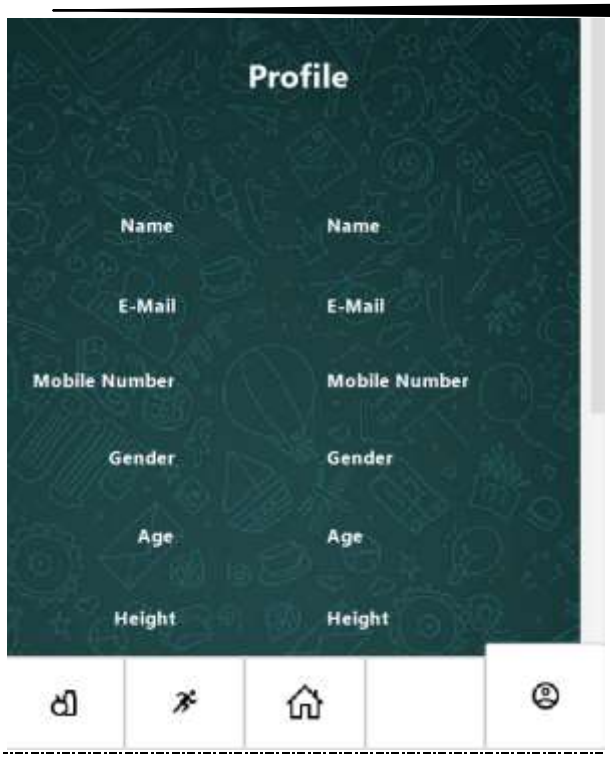
Homefrm

This is the homepage which comes after you login. Here you can see amount of sleep , calories intake, glasses of water,and you can also go to sleep, profile,workout,nutrition pages.



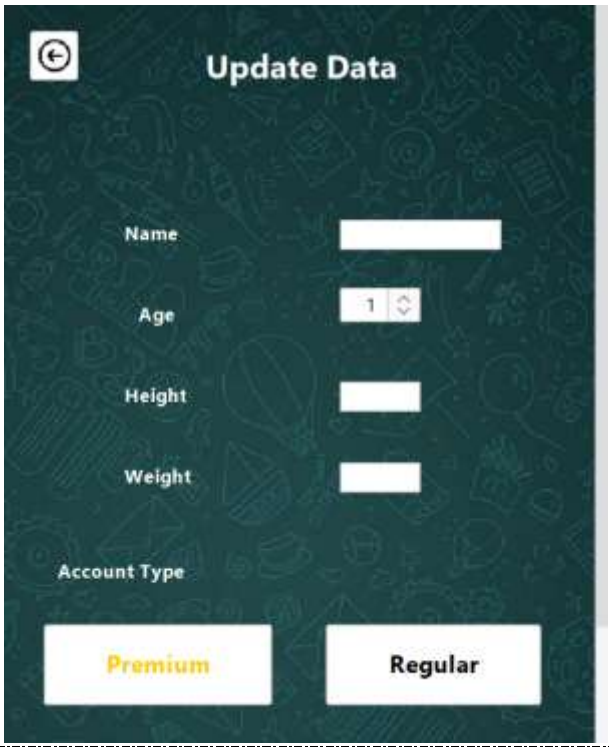
Profilefrm

This is the profile page. Here you can see your account and personal information and can update the information. You can also logout.



ProfileUpdatefrm

This page is for updating the profile page.

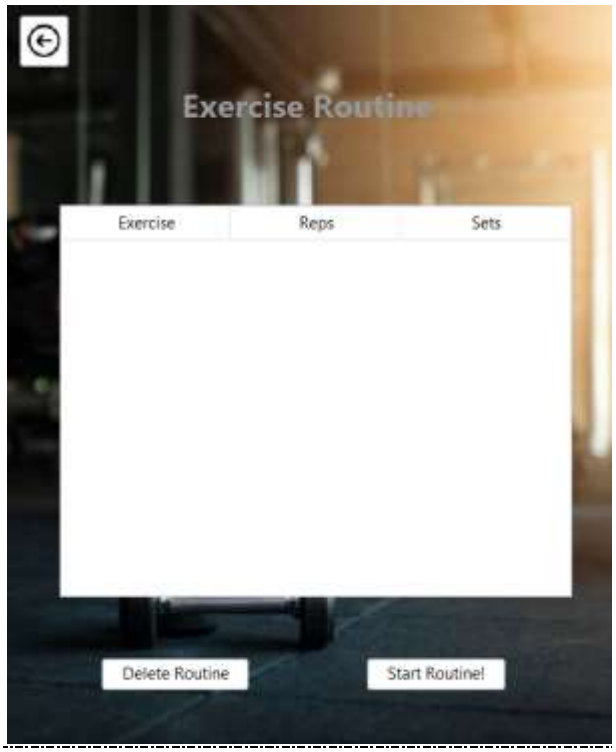


Workoutfrm

This is workout page here you can check your workout routine or complete you exercise.

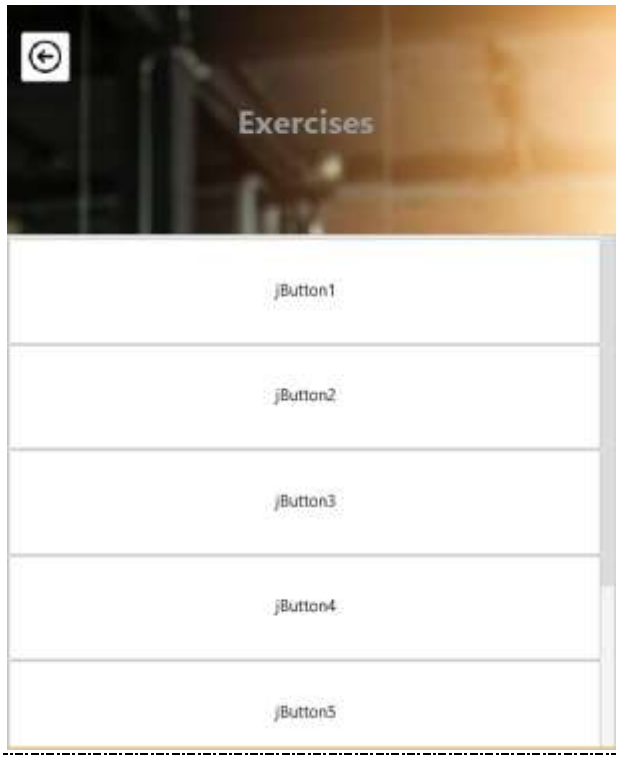
Routinefrm

This is exercise routine page. Here you can see your exercise routine and can complete your exercise.



Exercisesfrm

Here you will find all type of exercises which you can add.

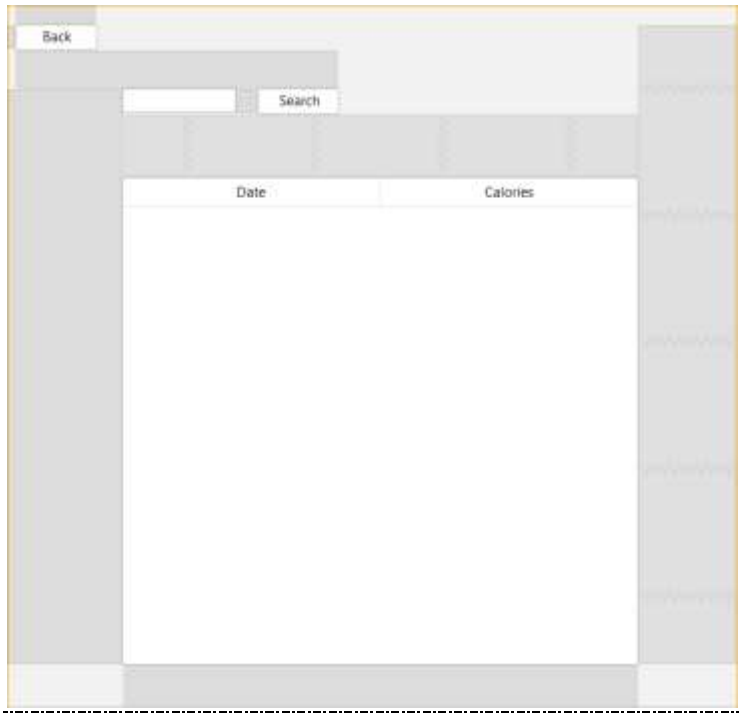


ExerciseDetailsfrm

Here you will see the futher information and procedure of exercise and can add them and also check your routine.

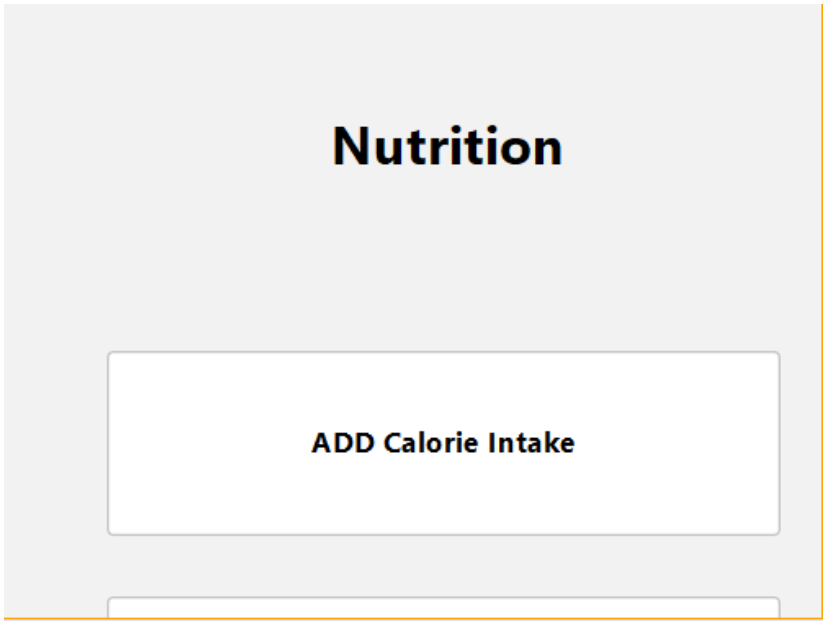
NutritionCheckfrm

Here you can check the food intake date and the calories of the food.



NutritionMainfrm

Here you can add calories intake.



NutritionAddfrm

Here you can add what type of food you ate and also add its grams and can check its calorie.

Sleepfrm

This is sleep page where you can click on sleep mode when you want to sleep and after clicking the device will go on sleep mode and then when you open the device after you wake up the application will note you sleeping time.

SleepCyclefrm

This page will tell your sleeping time and date that when you slept for how long.

CONCLUSION

- The Health Fitness system application is users friendly and easy to use.

- This application can be accessed remotely anywhere anytime with the help of a computer or a laptop.
- This application can also be used by the users as a guide for their physical traning to increase their physical strength, abilities and fitness.