

## MINI PROJECT

(2020-21)

Building of android application

## HOME WORKOUT APP

### FINAL-REPORT



**Institute of Engineering & Technology**

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## **DECLARATION**

We hereby declare that the work which is being presented in the B.Tech. Project "**HOME WORKOUT APP**", in partial fulfillment of the requirements for the award of the **Bachelor of Technology** in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Mr. Neeraj Khanna.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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## **ACKNOWLEDGEMENT**

First and foremost, praises and thanks to the God, the Almighty, for His showers of blessings throughout our mini project to complete the project successfully.

I/we would like to express our deep and sincere gratitude to our college faculties for giving us this opportunity to do a mini project. I/We am extremely grateful to my mentor, Mr. Neeraj Khanna, for his invaluable guidance throughout this mini project. His dynamism, vision, sincerity and motivation have deeply inspired us. He has guided us so well. It was a great privilege and honor to work and study under his guidance. I/we are extremely grateful for what he has offered us. I would also like to thank him for his empathy. I/we am extremely thankful to our friends and family for their acceptance and patience during this mini project.

I/We are extremely grateful to our parents for their love, prayers, caring and sacrifices for educating and preparing us for my future.

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## **ABSTRACT**

Smart phones and tablets are slowly but steadily changing the way we look after our health and fitness. Creativity meaning become in the use of optimal technology as solution of human life problems, and in recent year's technology is available and developed to facilitate human beings needs; that not stopped. People are always seeking to have healthy body fitness and they are needed to motivate them to it. So we believe that our application to solve this problem in android device users, through help users to manage the health life system in health fitness and nutrition. Our app helps people to find exercise as well as healthy diet routine according to their needs. The project displays videos for exercise, and the preparation of healthy eating. The project is developed using android development technology.

## CERTIFICATE







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## **INTRODUCTION**

The application is aimed at developing a workout model for people who needed to perform exercises in a conformable procedure. It is a mobile application designed with Android technology. Regular exercise has health and physical benefits which are hard to ignore. Health and physical fitness are the fundamental targets for the Application. It is designed to contain the built-in categories of workouts. The collection of workouts is meant to contain descriptions and procedures on how the workouts should be performed. The project is an Android Application targeted at people who like to keeps fit and keep track of their workout tasks and sets of workouts done at regular interval. A huge number of people work out without any workout plans, some do have plans but not well documented.

### **1.1 Project Background**

Nowadays mobile is becoming an important tool, it is no longer limited as a communication service only, but exceeds its position to provide modern techniques and many services. Mobile technologies are increasingly growing among years; there have been several new researches and developments in this space. According to a Statista Survey, the number of fitness app users grew from 62.7 million in 2018 to 87.4 million users in 2020. It is projected that in 2022, the overall number of users will equal 86.3 million. In 2019, the number of FitBit devices sold worldwide constituted 16 million. The mobile applications users can use and view services of different categories, such as view video and take a services. This application will allow user to keep track of their exercise routine and find exercise videos with a proper nutrition diet according to their need.

## 1.2 Project motivation

In the 21<sup>st</sup> Century life people don't get time to go to gym for workout or eat healthy food tht results in deteriorating health conditions. And in the current pandemic situation keeping ourselves healthy is very essential.. The lockdown situation has increased obesity and unhealthy eating habits especially among youth. So this apps provides the solution at one place

## 1.3 Problem Statement

In the modern era there has been an increasing amount of interest in physical fitness and health with the most people, there are people who have a full desire for that, but it may force them time or place conditions on the sometimes unsteadiness on a specific date for the exercise. Based on that project provided a mobile application for the exercise of fitness in every place and at any time, thus facilitated a lot trouble discipline on a specific place or a specific time in the day and helped them to calculate calories that are burned through sport exercise and eat healthy food. There are lot of applications that are interested in health, fitness and nutrition, but the user needs one application combines between them to facilitate the deal and user does not distract.

## 1.4 Objectives

### 1.4.1 Main Objective

The main objective of this project is to achieve physical fitness and improve the level of health of the users by helping and motivate them to doing sports exercise and eating healthy food.

### 1.4.2 Specific Objective

- Provide guidelines to workout for different gender groups
- Provide guidelines for healthy eating habits
- Helps in monitoring the exercise pattern
- To manage the health life system in health fitness and nutrition
- To motivate the interest of health and physical fitness and nutrition.

## **Technologies Used**

- **Android Studio-** Android Studio is the official Integrated Development Environment (IDE) for Android app development, based on IntelliJ IDEA . . . A unified environment where you can develop for all Android devices. Apply Changes to push code and resource changes to your running app without restarting your app
  - SDK-A software development kit (SDK) is a set of tools provided by the manufacturer of (usually) a hardware platform, operating system (OS), or programming language. SDKs help developers create applications specific to that platform, system, or programming language. Think of it kind of like the plastic bag of tools that comes packaged with the parts of a dresser you've bought to assemble yourself. You have what you need to get the job done, and what's included in the kit varies from manufacturer to manufacturer.
- **Android Oreo gradle** -It contains a number of major features, including notification grouping, picture-in-picture support for video, performance improvements and battery usage optimization, and support for autofillers, Bluetooth 5, system-level integration with VoIP apps, wide color gamuts, and Wi-Fi Aware. Android Oreo also introduces two major platform features: Android Go— a software distribution of the operating system for low-end devices – and support for implementing a hardware abstraction layer.
- **AppCompat-** When new versions of android are published, Google will have to support the older versions of android. So AppCompat is a set of support libraries which can be used to make the apps developed with newer versions work with older versions. . . Then, you can use the AppCompat library.

- Junit- is a unit testing framework for the Java programming language. Junit has been important in the development of test-driven development, and is one of a family of unit testing frameworks which are collectively known as xUnit that originated with SUnit.
- Drawer Layout- is the root layout in which we define a FrameLayout and a Navigation View. In Navigation View we set the items from menu file and FrameLayout is used to replace the Fragments on the click of menu items.
- CardView – it is a new widget called which essentially can be thought of as a FrameLayout with rounded corners and shadow based on its elevation. Note that a CardView wraps a layout and will often be the container used in a layout for each item within a ListView or RecyclerView.
- ConstraintLayout- , which is now the default layout in Android Studio, gives you many ways to place objects. You can constrain them to their container, to each other or to guidelines. This allows you to create large, complex, dynamic and responsive views in a flat hierarchy. It even supports animations.
- Device administrator - is the legacy method of enrolling Android devices with the Workspace ONE UEM console after Android's Work Managed and Work Profile modes were introduced in Android 5.0. This section gives you information and best practices on how to move from the Android (Legacy) deployment to Android Enterprise.
- **Kotlin**- Kotlin is a cross-platform, statically typed, general-purpose programming language with type inference. Kotlin is designed to interoperate fully with Java, and the JVM version of Kotlin's standard library depends on the Java Class Library, but type inference allows its syntax to be more concise. Certain Android APIs, like Android KTX are Kotlin-specific, but most are written in Java and can be called from either Java or Kotlin. Kotlin's interoperability with Java is core to its growth.

- **Android KTX-** is a set of Kotlin extensions that are included with Android [Jetpack](#) and other Android libraries. KTX extensions provide concise, idiomatic Kotlin to Jetpack, Android platform, and other APIs. To do so, these extensions leverage several Kotlin language features
- **KAndroid-** Kotlin library for Android providing **useful extensions to eliminate boilerplate code in Android SDK and focus on productivity.** This library is amazing you can avoid writing much code for common functions like SearchView query text change, Handler implementation and ViewPager implementation, etc.

## Scope

The health and fitness field is growing rapidly. But the now health and fitness apps available lack in one thing or the other. The app can provide a one way solution to track the health of family and store data. It will prescribe diet according to the body type, age and exercise one is engaging in. The system provides a dashboard enabling to access the data of each individual further with the categories of exercise and diet. It will contribute in making an individual or a family healthier.

## **SOFTWARE REQUIREMENT ANALYSIS**

### **INTRODUCTION**

The aim of this part is to gather and analyze and give an in-depth insight of the complete **HOME WORKOUT APP** by defining the problem statement in detail. Nevertheless, it also concentrates on the capabilities required by stakeholders and their needs while defining high-level product features. The detailed requirements of the **HOME WORKOUT APP PROJECT** are provided in this document.

#### **Purpose**

The purpose of the document is to collect and analyze all assorted ideas that have come up to define the system, its requirements with respect to consumers. Also, we shall predict and sort out how we hope this product will be used in order to gain a better understanding of the project, outline concepts that may be developed later, and document ideas that are being considered, but may be discarded as the product develops.

In short, the purpose of this report document is to provide a detailed overview of our software product, its parameters and goals. This document describes the project's target audience and its user interface, hardware and software requirements. It defines how our client, team and audience see the product and its functionality. Nonetheless, it helps any designer and developer to assist in software delivery lifecycle (SDLC) processes.

#### **Document Convention:**

In this text, it will use font small 2 and over striking for primary title, font small 3 for secondary title and font 4 for the content. And it will use the capital letters when mentions the name of the application **HOME WORKOUT APP**.

### **Intended Audience:**

This app is intended for the people who have a busy schedule or like to be at home but want guidelines to work out and guidelines for healthy eating habits, need help in monitoring the exercise pattern or to manage the health life system in health fitness and nutrition and motivate the interest of health and physical fitness and nutrition.

### **Definitions, Acronyms, and Abbreviations.**

Configuration	It means a product which is available / Selected from a catalogue can be customized.
FAQ	Frequently Asked Questions
CRM	Customer Relationship Management
RAID 5	Redundant Array of Inexpensive Disk/Drives

### **PERSPECTIVE:**

An android Application developed using Kotlin in android studio

### **Productive Functions:**

Help the users to use this application to maintain their fitness and help them maintain a healthy lifestyle by providing a prescribed diet chart for the whole week according to their weight and BMI. It helps them to do a number of work out activities in their home with timer and repetition settings.

### **USER CLASSES AND CHARACTERISTICS:**

Our application mainly those who want to maintain their fitness while being at home only. These are mostly the people who have a hectic

schedule and are unable to go to gym. But it does not rule out people who just like staying at home or anyone. It provides BMI calculation, diet chart and exercise schedule for both men and women.

### **OPERATING ENVIRONMENT:**

The android application is interactive for people. It provides Our app is an android application designed for android phones having an android version higher than or equal to kitkat.

### **DESIGN CONSTRAINS:**

Our application must accept the command and then start the game. We must consider about the arrangement and beautification of the interface; Prioritization of processing operations and it deepens the difficulty of coding and testing. This application needs users to enter and decide to start their exercise according to their gender. For the diet chart people have to calculate their BMI first so according to that they will get a proper diet for themselves.

### **ASSUMPTIONS AND DEPENDENCIES:**

The people who manage the application should know basics about the exercises or the responsibilities. They are assumed to be familiar with food items that are present in the diet chart

## FUNCTIONAL REQUIREMENT:

### User Interfaces:

**UI1-** The first page shows a selection page where you have to choose between the two genders to start your exercise. It will direct you to the various exercises where you can start exercising. It will have a time for exercise, an option to skip the exercise or stop it.

**UI2-** This will show a BMI calculator where you have to enter your height and weight to calculate your BMI. The BMI will be calculated and an option for your diet chart will appear according to your weight.

**UI3-** This page shows a list of all days of a week where you can select a day and you will be directed to the diet chart for the particular day.

**UI4-** This is a side bar it has various option to navigate you to the different parts of the app like the BMI calculator, exercise page and all other parts.

### HARDWARE REQUIREMENTS:

The requests of the hardware for the web application are as followed:

- RAM with 512MB.
- Storage of min 2GB

### Software Requirements:

To access this app the user needs to install it in an android phone with android version higher than or equal to kitkat.

- Operating system-Android 4.2, Android 4.4.2, or Android 4.4.4
- Processor- Intel Atom® Processor Z2520 1.2 GHz, or faster processor

## **Development Requirements:**

Tools used to develop the app:

- Android Studio
- Kotlin
- Photoshop
- Window operating system
- Kinemaster

## **SOFTWARE DESIGN**

Function Oriented Design for procedural approach and different diagram to show the designing of the application.

### **USECASE DAIGRAM**

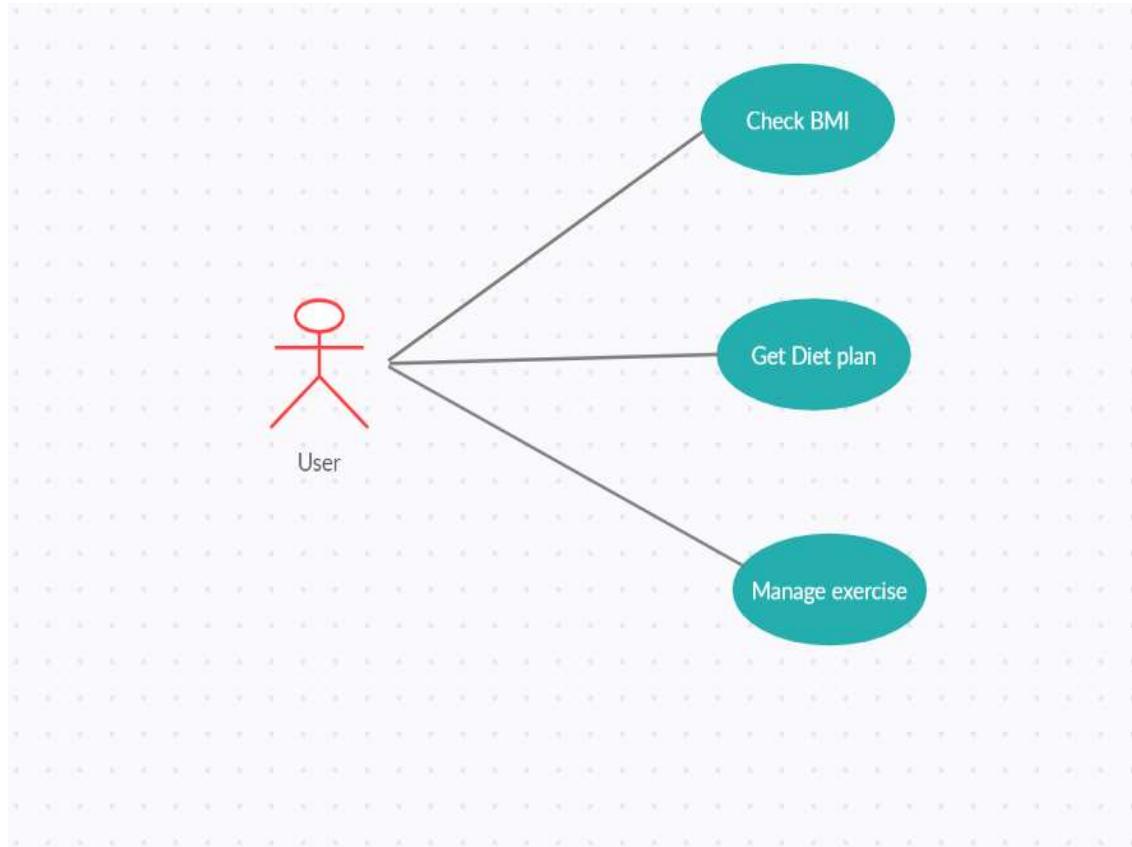


Figure 1:Usecase Diagram

## Sequence Diagram Of BMI Calculator

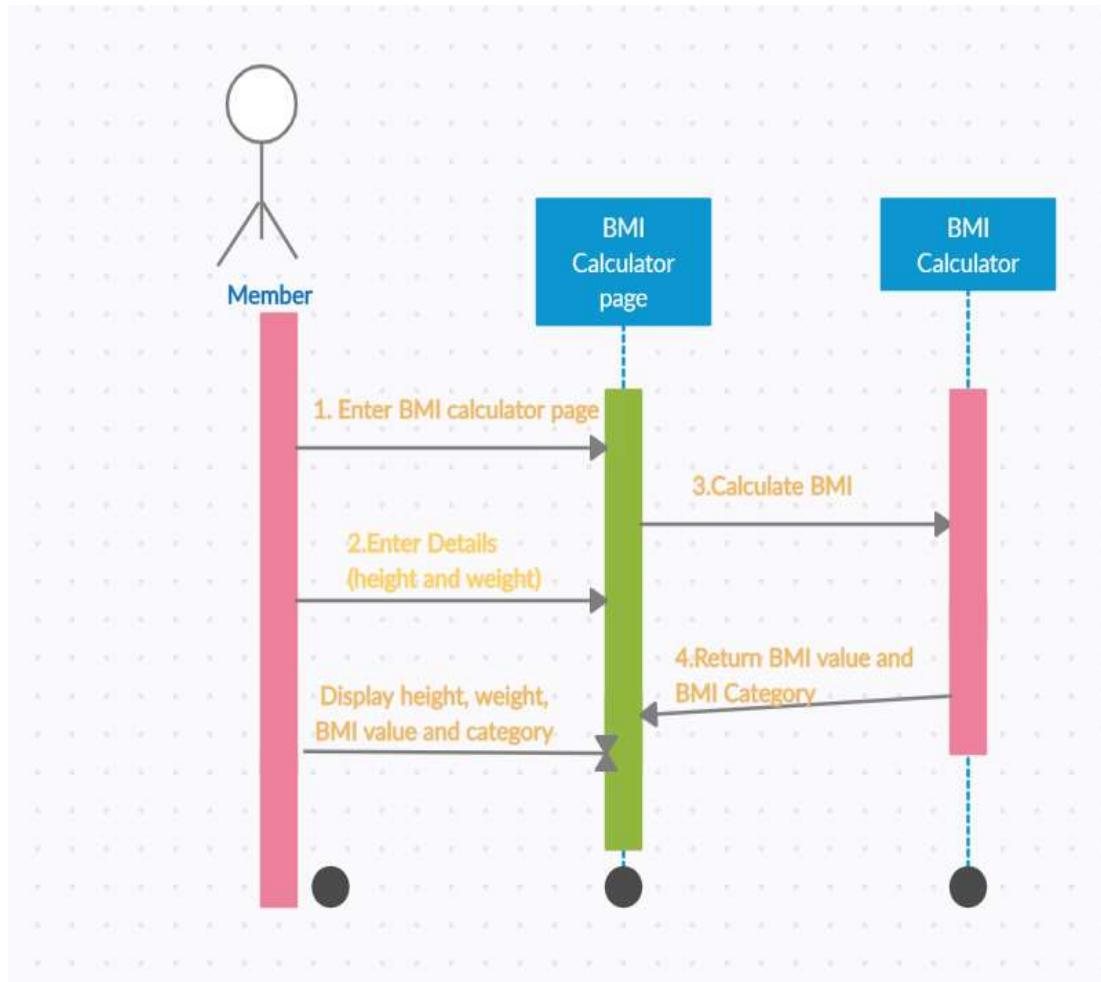


Figure 2: Sequence diagram of BMI calculator

\

## Sequence Diagram Of Workout

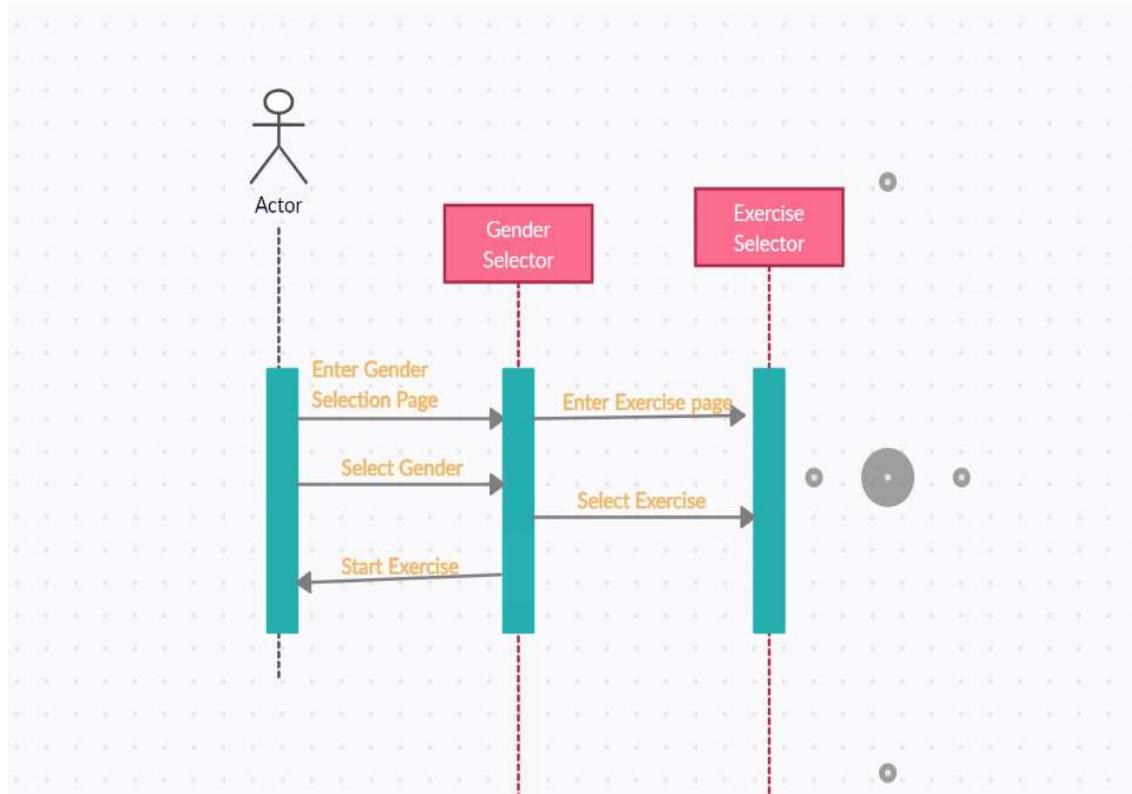


Figure 3: Sequence diagram of workout

## FLOWCHART OF BMI CALCULATOR

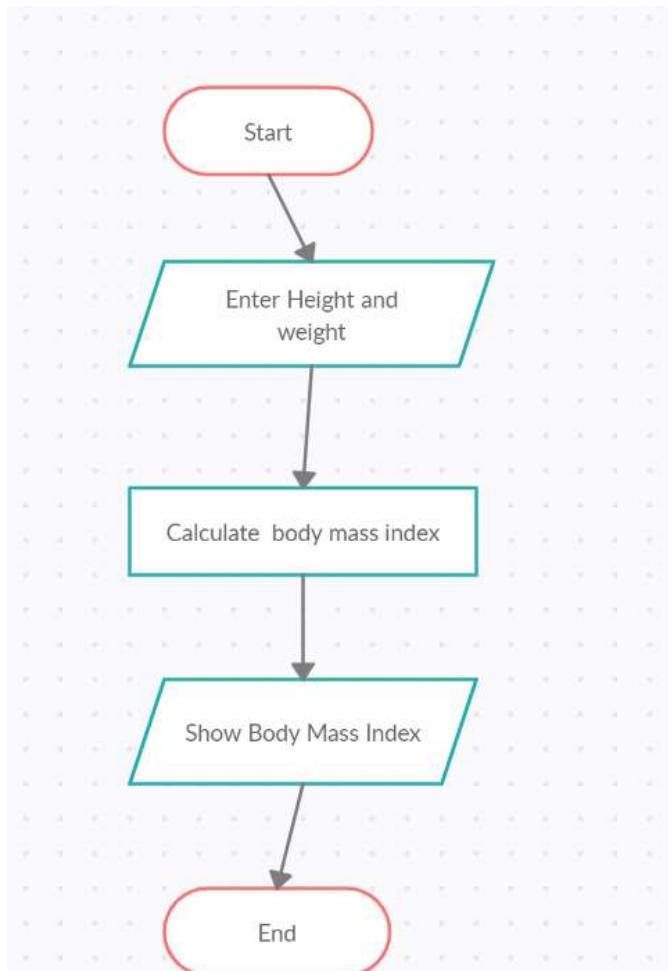


Figure 4: Flowchart of BMI calculator

## FLOWCHART OF HOME WORKOUT

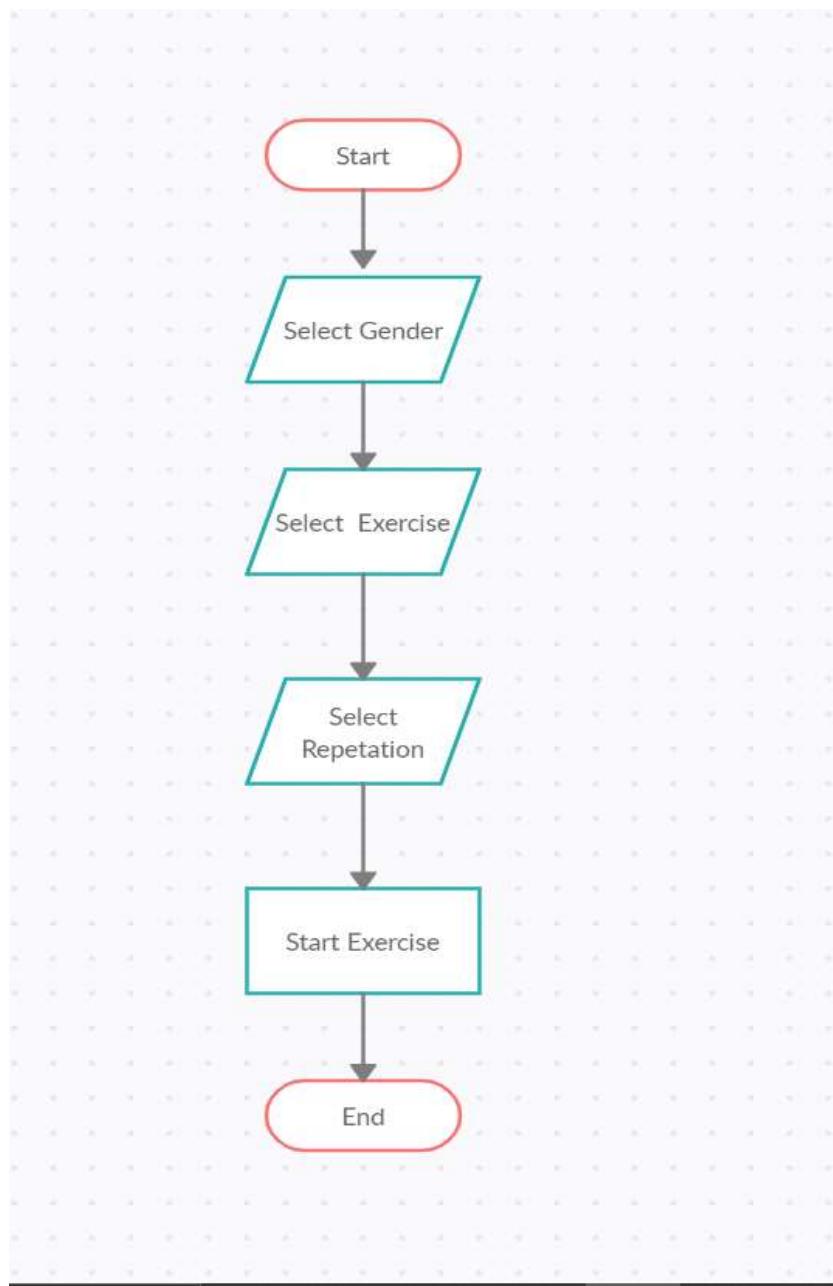


Figure 5: Flowchart of workout

## FLOWCHART OF DIET CHART

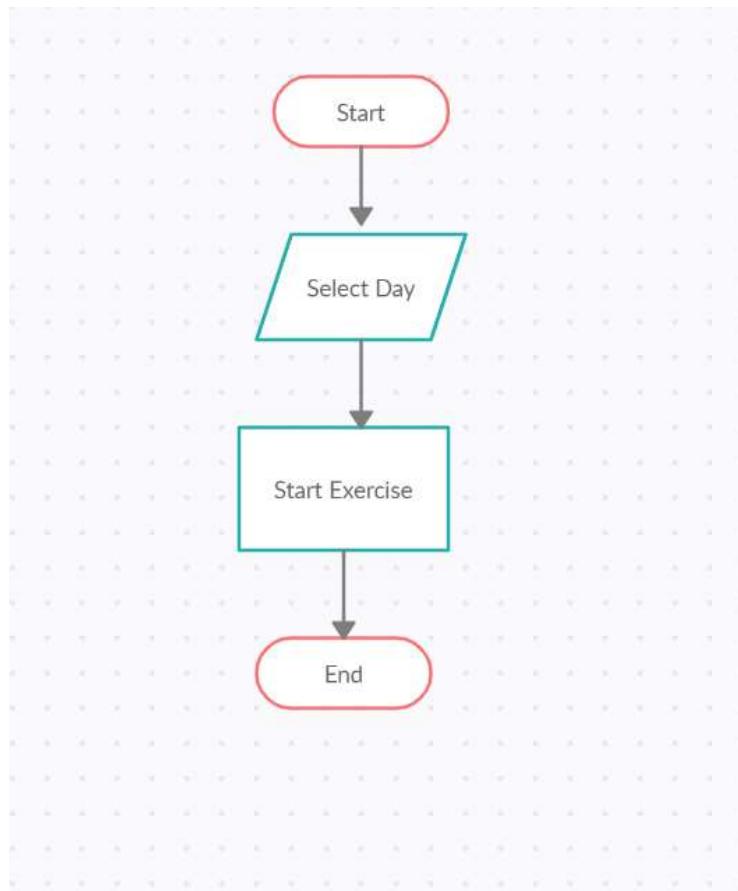


Figure 6: Flowchart of Diet chart

## **TESTING**

### **TEST PLAN**

**UNIT Testing:** - Unit testing is a software development process in which the smallest testable parts of an application, called units, are individually and independently scrutinized for proper operation.

Unit testing is often automated but it can also be done manually. A unit test is an automated piece of code that invokes a unit of work in the system and then checks a single assumption about the behavior of that unit of work.

In this application, a manually written unit test script method is used for testing function those perform unit amount of work and provides functionality.

## **TEST REPORT**

```
(env) C:\Users\ACER\Desktop\unplug the players>python test.py
.....
<-----Testing----->

1) Testing wage
Ok ......

2) Testing Value
Ok ......

3) Testing similarity
Ok ......

4) Testing Route
Ok ......

Testing Done.
```

Figure 7:Test Report

## **Design and Implementation**

### **System Design**

System design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements.

After specified all requirements extreme design relies on test driven development, which design phase still under users test to reach desired design. After well understood of requirements design starting from designs which explain main classes and their responsibilities and collaborators, after that system architecture designed for all components until reaching design of user interfaces that frequently changing under users testing.

### **Implementation**

A program will write based upon the algorithm designed in the last phase (design). A piece of code is written for every module and checked for the output. We will use the Kotlin for android to develop the software. At this phases must match between the requirements and the output of the application to determine the verification for it. As mentioned, the implementation language will be Kotlin because mostly Android applications are written in it.

The Layout Editor enables you to quickly build layouts by dragging UI elements into a visual design editor instead of writing layout XML by hand. The design editor can preview your layout on different Android devices and versions, and you can dynamically resize the layout to be sure it works well on different screen sizes.

The layout editor of android studio is used to draw all the layouts by drag and drop method.

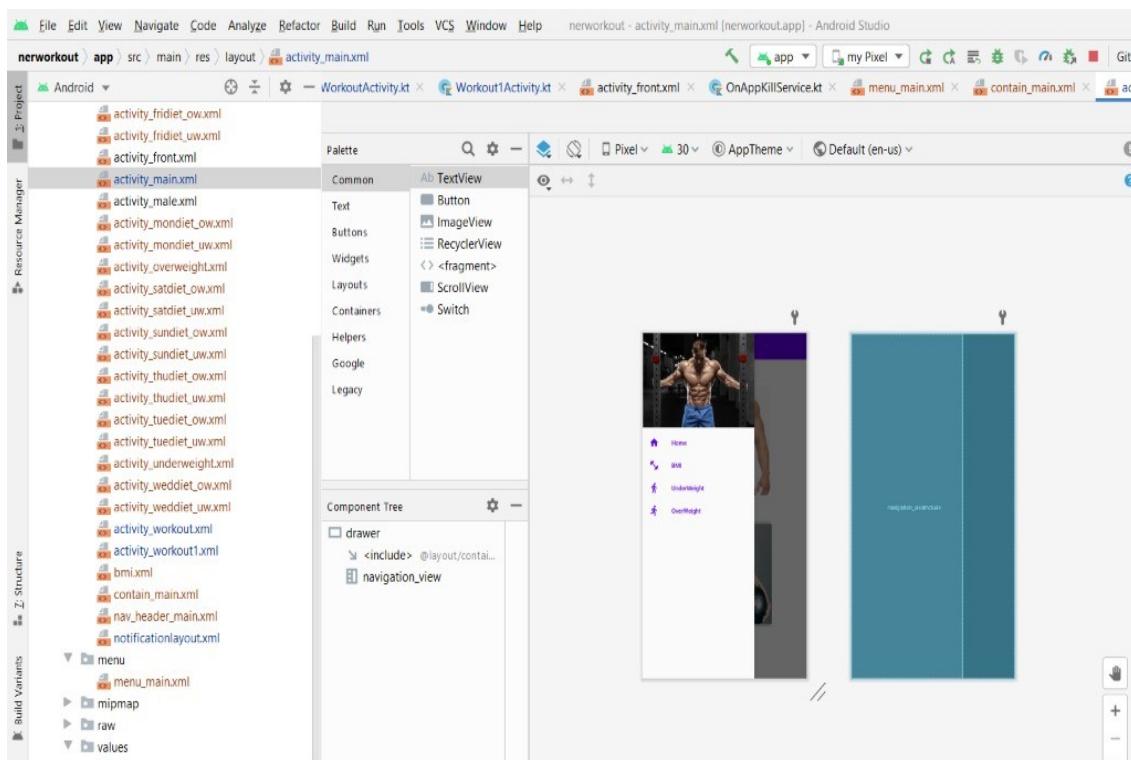
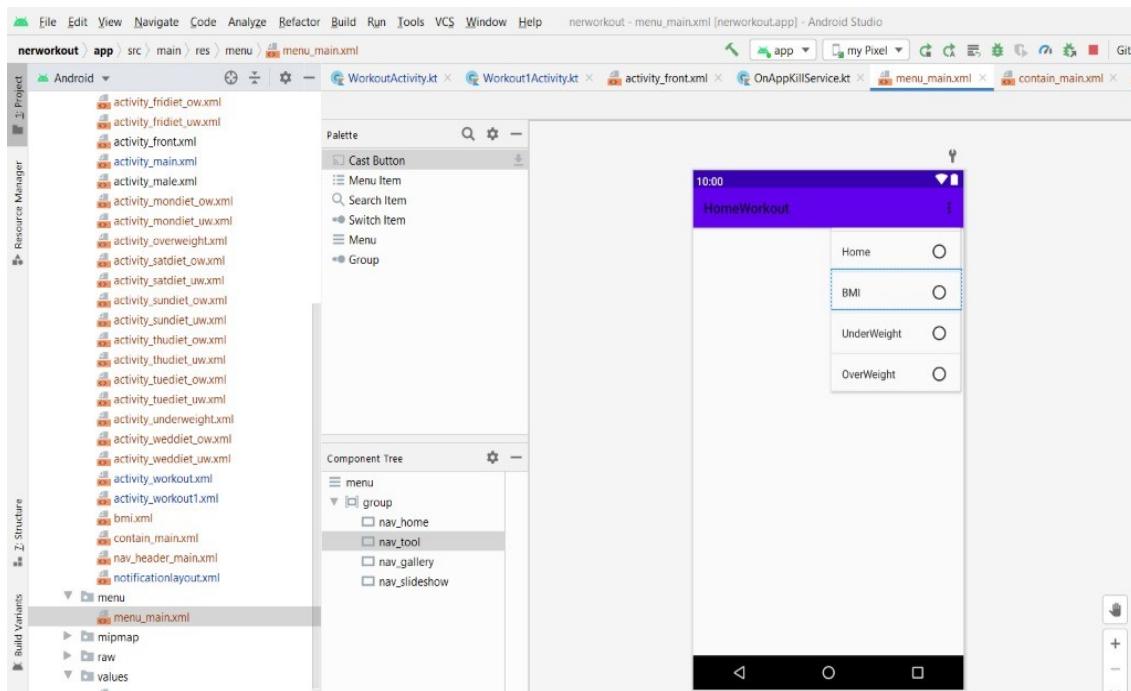
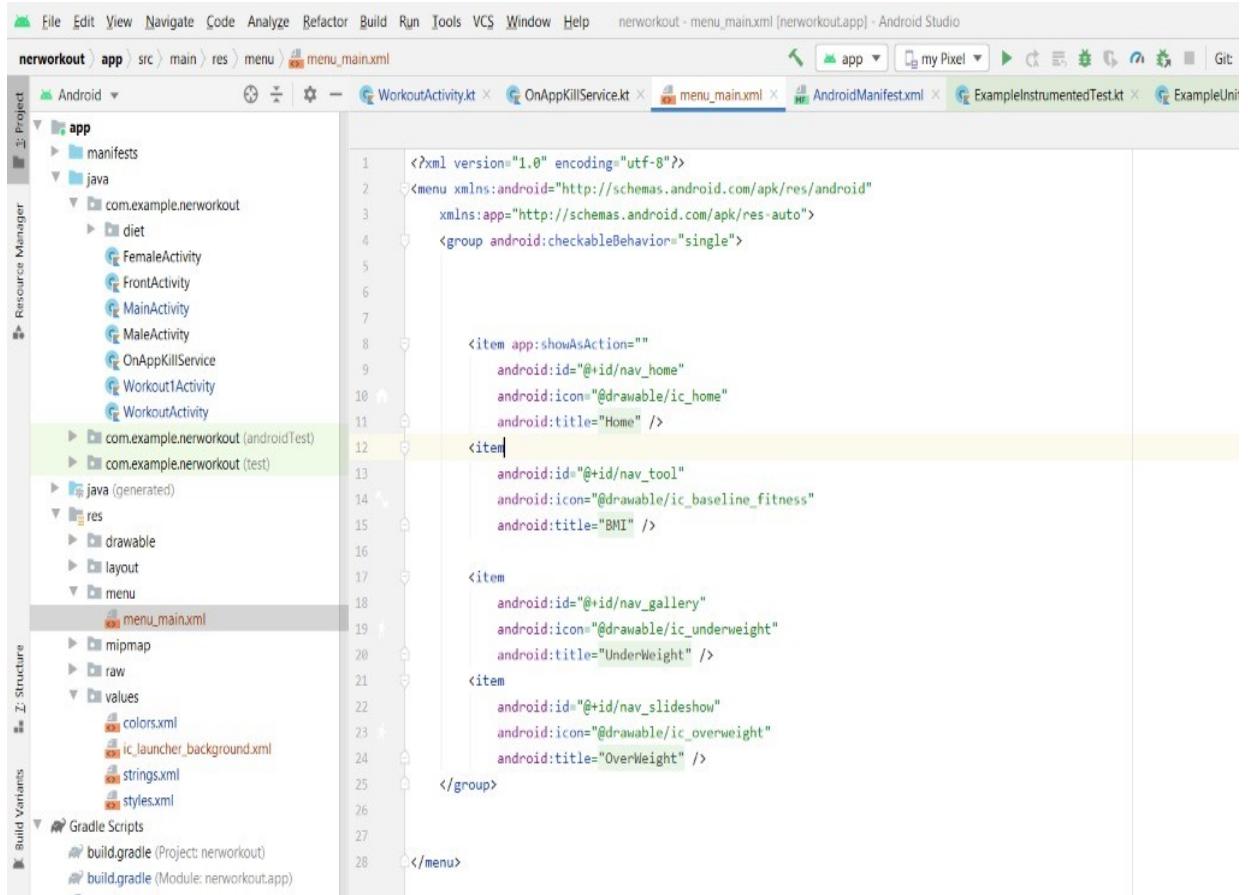


Figure 8:Various layout implementation

The implementation of BMI page with different functions is shown in the code given below with the logic of underweight and overweight.



```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
      xmlns:app="http://schemas.android.com/apk/res-auto">
<group android:checkableBehavior="single">

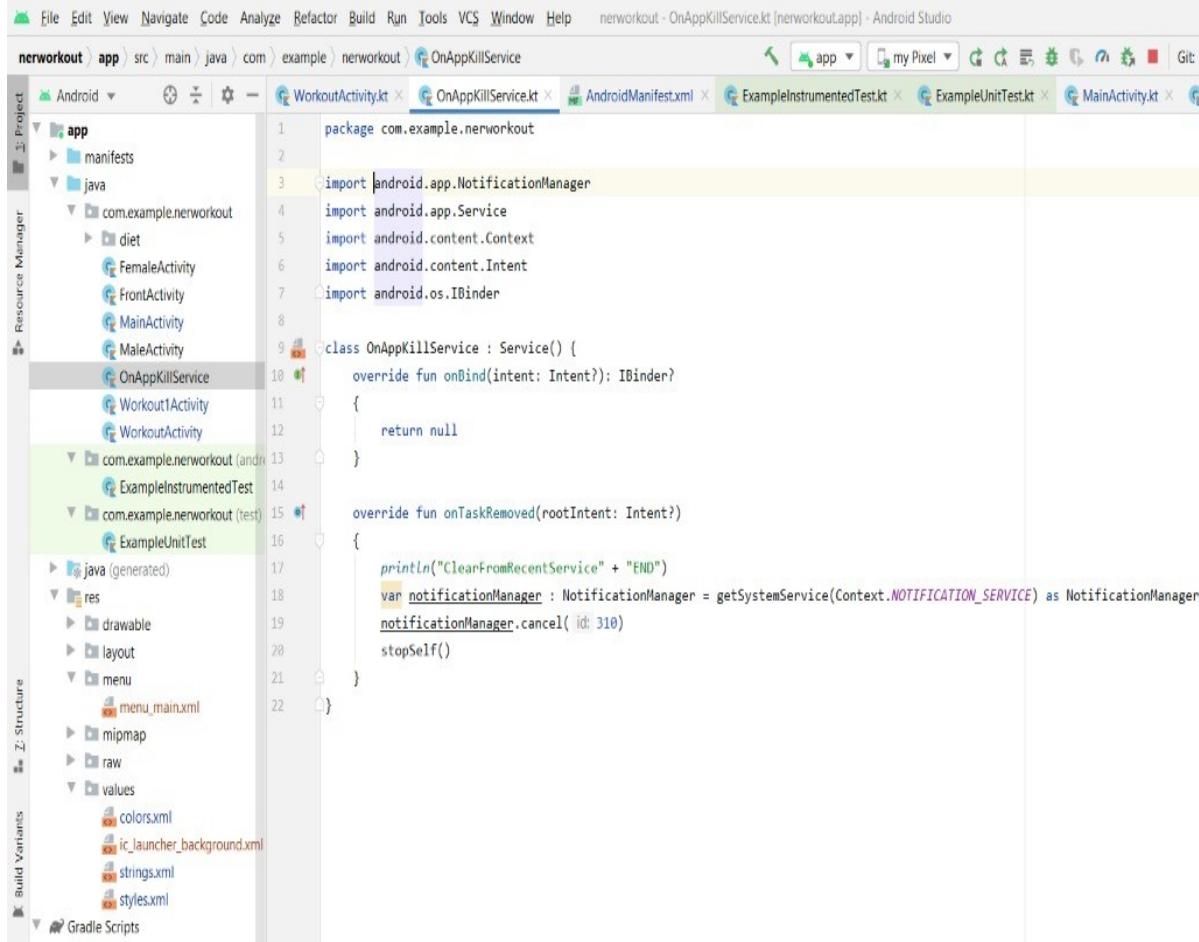
    <item app:showAsAction=""
          android:id="@+id/nav_home"
          android:icon="@drawable/ic_home"
          android:title="Home" />
    <item
          android:id="@+id/nav_tool"
          android:icon="@drawable/ic_baseline_fitness"
          android:title="BMI" />

    <item
          android:id="@+id/nav_gallery"
          android:icon="@drawable/ic_underweight"
          android:title="UnderWeight" />
    <item
          android:id="@+id/nav_slideshow"
          android:icon="@drawable/ic_overweight"
          android:title="OverWeight" />
</group>
</menu>

```

Figure 9:BMI page implementation

The notification panel is designed using the NotificationManager library. It has the countdown of the remaining exercise time and an END sign if the time completes.



The screenshot shows the Android Studio interface with the code editor open to the file `OnAppKillService.kt`. The code implements a service that cancels a notification when it is removed from the recent apps list.

```

package com.example.nerworkout

import android.app.NotificationManager
import android.app.Service
import android.content.Context
import android.content.Intent
import android.os.IBinder

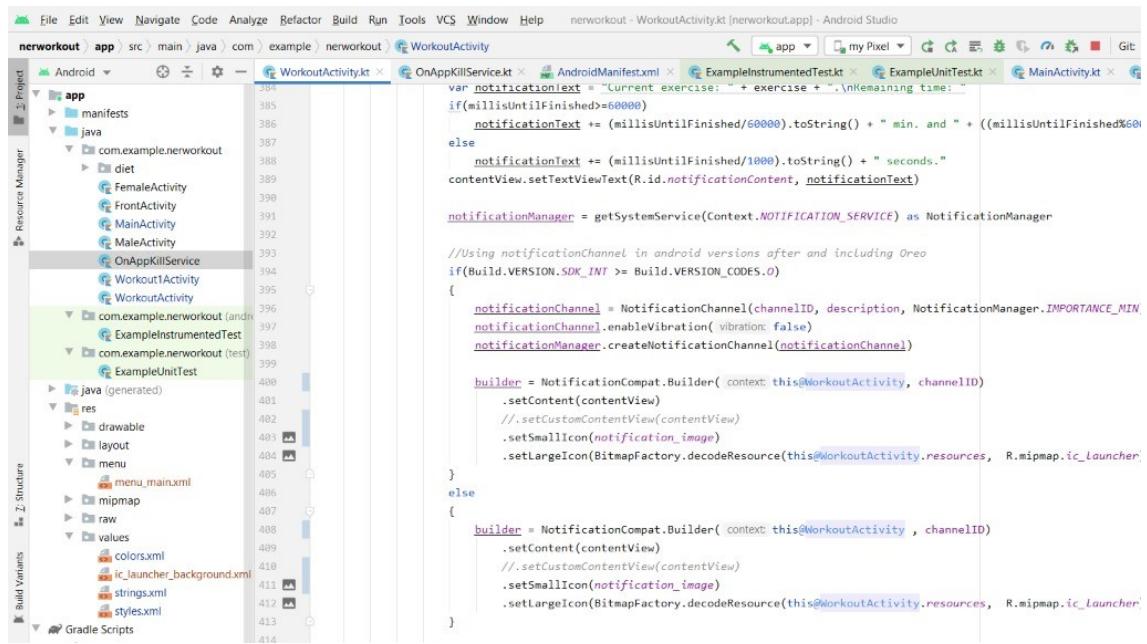
class OnAppKillService : Service() {
    override fun onBind(intent: Intent?): IBinder? {
        return null
    }

    override fun onTaskRemoved(rootIntent: Intent?) {
        println("ClearFromRecentService" + "END")
        var notificationManager : NotificationManager = getSystemService(Context.NOTIFICATION_SERVICE) as NotificationManager
        notificationManager.cancel( id: 310)
        stopSelf()
    }
}

```

**Figure 10:Notification Implementation**

Notification generated with the help of small icon image, title of exercise and the time that is remaining to complete the exercise



The screenshot shows the Android Studio interface with the following details:

- Project Structure:** The project is named "nerworkout". The "app" module contains "src/main/java/com/example/nerworkout" which includes "OnAppKillService", "FemaleActivity", "FrontActivity", "MainActivity", "MaleActivity", "WorkoutActivity", and "WorkoutActivityTest". It also contains "com.example.nerworkout" (AndroidManifest.xml), "ExampleInstrumentedTest", "ExampleUnitTest", and "ExampleUnitTests" (test).
- Code Editor:** The "WorkoutActivity.java" file is open. The code implements a notification logic based on the time until completion. It uses a NotificationManager to create a notification with a small icon (notification\_image) and a content view.
- Code Snippet:**

```

var notificationText = "Current exercise: " + exercise + "\nRemaining time: "
if(millisUntilFinished>60000)
    notificationText += (millisUntilFinished/60000).toString() + " min. and " + ((millisUntilFinished%60)/1000).toString() + " seconds."
else
    notificationText += (millisUntilFinished/1000).toString() + " seconds."
contentView.setTextViewText(R.id.notificationContent, notificationText)

notificationManager = getSystemService(Context.NOTIFICATION_SERVICE) as NotificationManager

//Using notificationChannel in android versions after and including Oreo
if(Build.VERSION.SDK_INT >= Build.VERSION_CODES.O)
{
    notificationChannel = NotificationChannel(channelID, description, NotificationManager.IMPORTANCE_MIN)
    notificationChannel.enableVibration( vibration: false )
    notificationManager.createNotificationChannel(notificationChannel)

    builder = NotificationCompat.Builder( context: this@WorkoutActivity, channelID )
        .setContent(contentView)
        // .setCustomContentView(contentView)
        .setSmallIcon(notification_image)
        .setLargeIcon(BitmapFactory.decodeResource(this@WorkoutActivity.resources, R.mipmap.ic_launcher))
}
else
{
    builder = NotificationCompat.Builder( context: this@WorkoutActivity , channelID )
        .setContent(contentView)
        // .setCustomContentView(contentView)
        .setSmallIcon(notification_image)
        .setLargeIcon(BitmapFactory.decodeResource(this@WorkoutActivity.resources, R.mipmap.ic_launcher))
}

```

Figure 11:Notification implement

The diet chart is implemented for various days of the week usinf icomand label.

```
<application
    android:allowBackup="true"
    android:icon="@mipmap/ic_launcher"
    android:label="HomeWorkout"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/AppTheme">
    <activity android:name=".diet.SunDietOW" android:parentActivityName=".diet.OverWeight"></activity>
    <activity android:name=".diet.SatDietOW" android:parentActivityName=".diet.OverWeight" />
    <activity android:name=".diet.FriDietOW" android:parentActivityName=".diet.OverWeight" />
    <activity android:name=".diet.ThuDietOW" android:parentActivityName=".diet.OverWeight" />
    <activity android:name=".diet.WedDietOW" android:parentActivityName=".diet.OverWeight" />
    <activity android:name=".diet.TueDietOW" android:parentActivityName=".diet.OverWeight" />
    <activity android:name=".diet.MonDietOW" android:parentActivityName="diet.OverWeight" />
    <activity
        android:name=".diet.SunDietUW"
        android:parentActivityName=".diet.UnderWeight" />
    <activity
        android:name=".diet.SatDietUW"
        android:parentActivityName=".diet.UnderWeight" />
    <activity
        android:name=".diet.FriDietUW"
        android:parentActivityName=".diet.UnderWeight" />
    <activity
        android:name=".diet.ThuDietUW"
        android:parentActivityName=".diet.UnderWeight" />
    <activity
        android:name=".diet.WedDietUW"
    manifest -> application -> service
```

Figure 12:Diet chart implementation

The accumulator is used to test the created app on a phone created in laptop

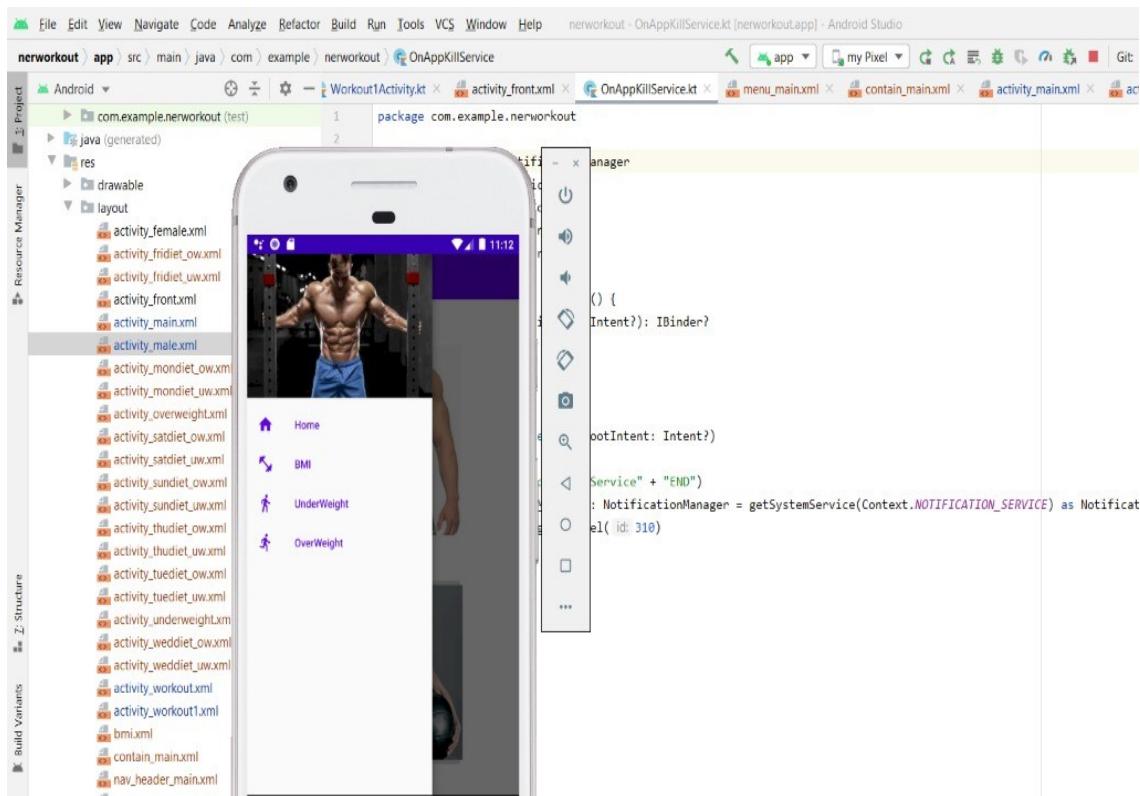


Figure 13:Accumulator

## The first page

This page appears when the user opens the app:



Figure 14:The first page

## The Selection page for workout of male or female

This is the second page from where the user can select the gender for which they want to continue their exercise.

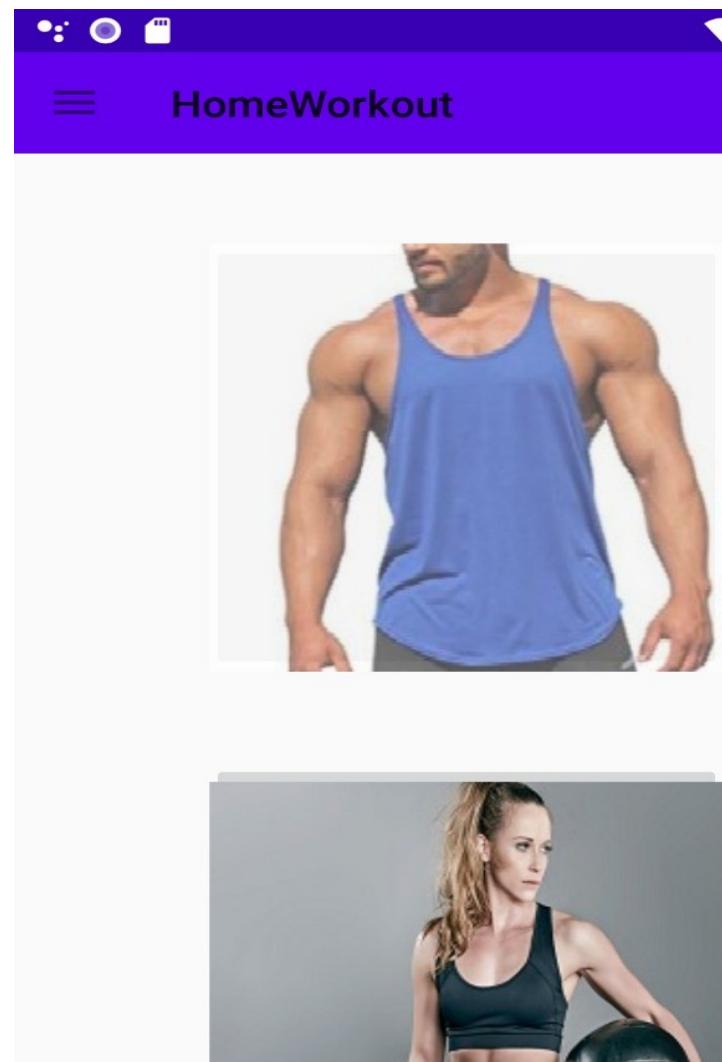


Figure 15:Gender Selection page

## The workout page for male

This page shows a number of different exercises from where the user can select the exercise he wants to do

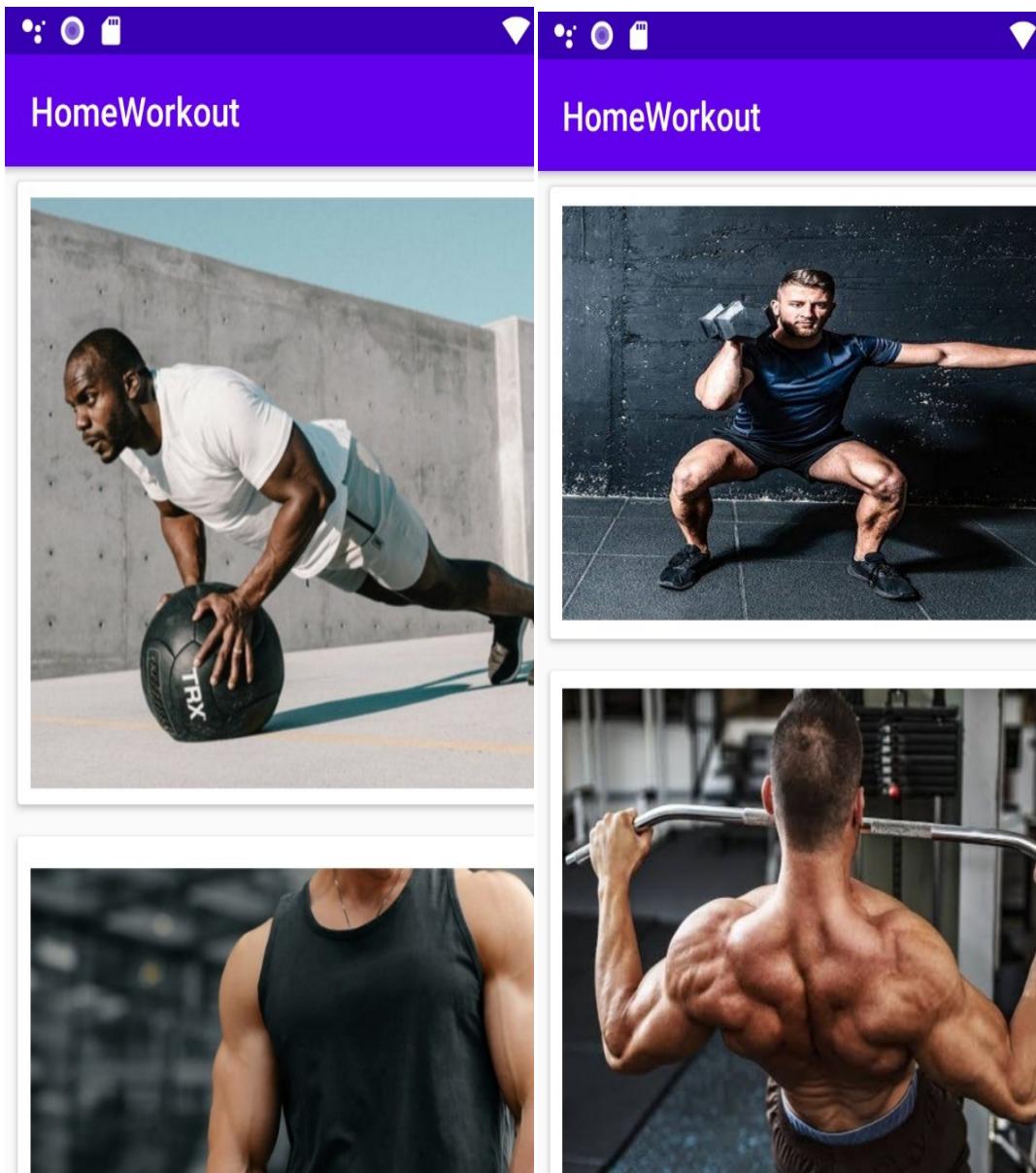


Figure 16:Male Workout page

## The workout page for female

This page shows a number of different exercises from where the user can select the exercise she wants to do

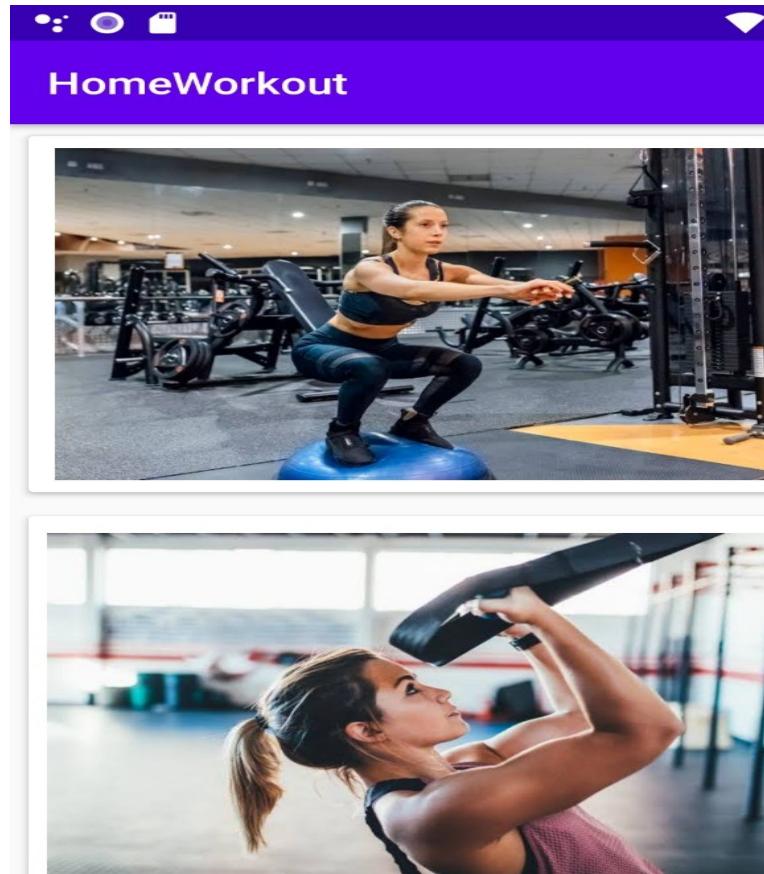


Figure 17:Female Workout page

## **Set the Number of times to you want to repeat the workout**

This page allows the users to set the number of times they want to perform a specific exercise. With a counter and a start button to start after setting a number.

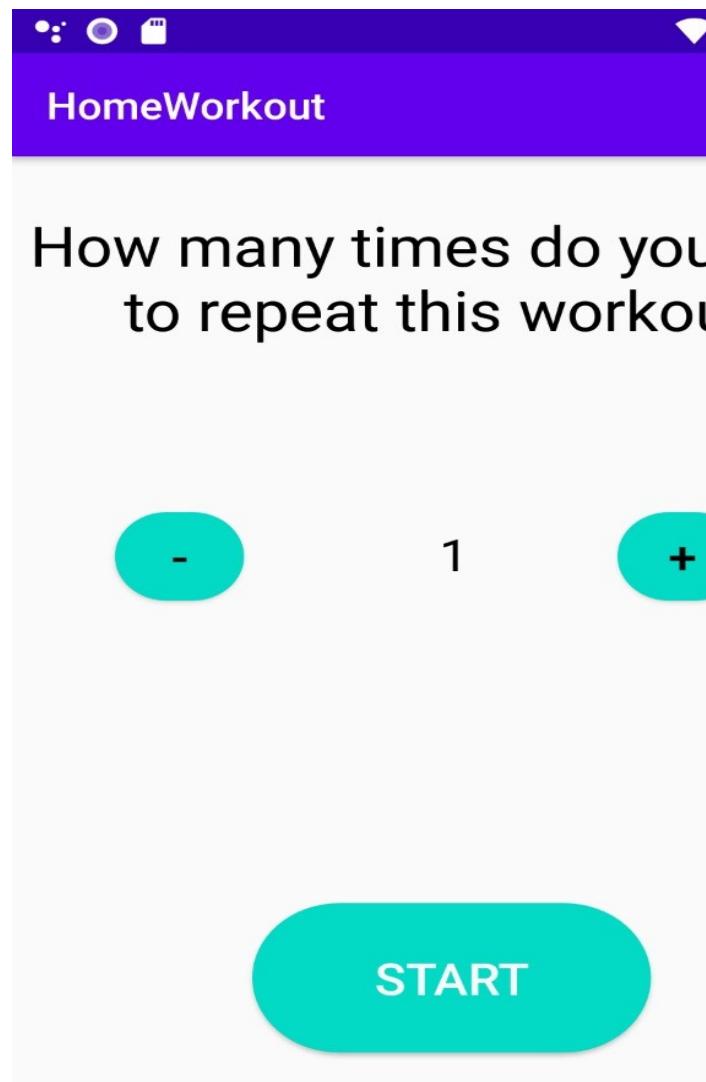


Figure 18: Repetition Count page

## The Exercise Page

This page shows a particular exercise with the timer in seconds along with a pause/resume button that can be used to control the exercise.

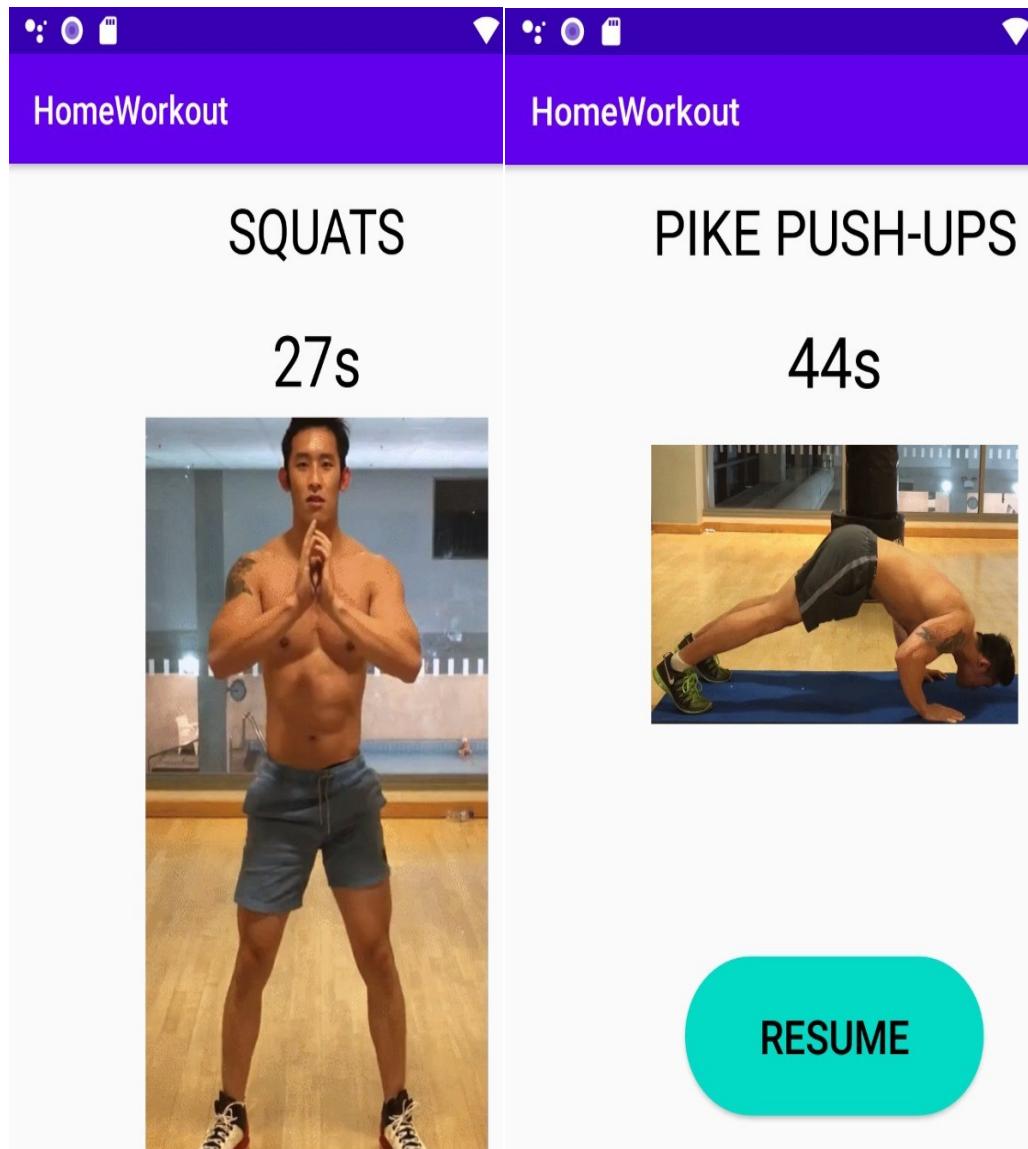


Figure 19: Exercise page

## The Notification Panel

In the notification panel of your phone the time remaining and the name of exercise is shown to the user to help him use his phone simultaneously for other use.

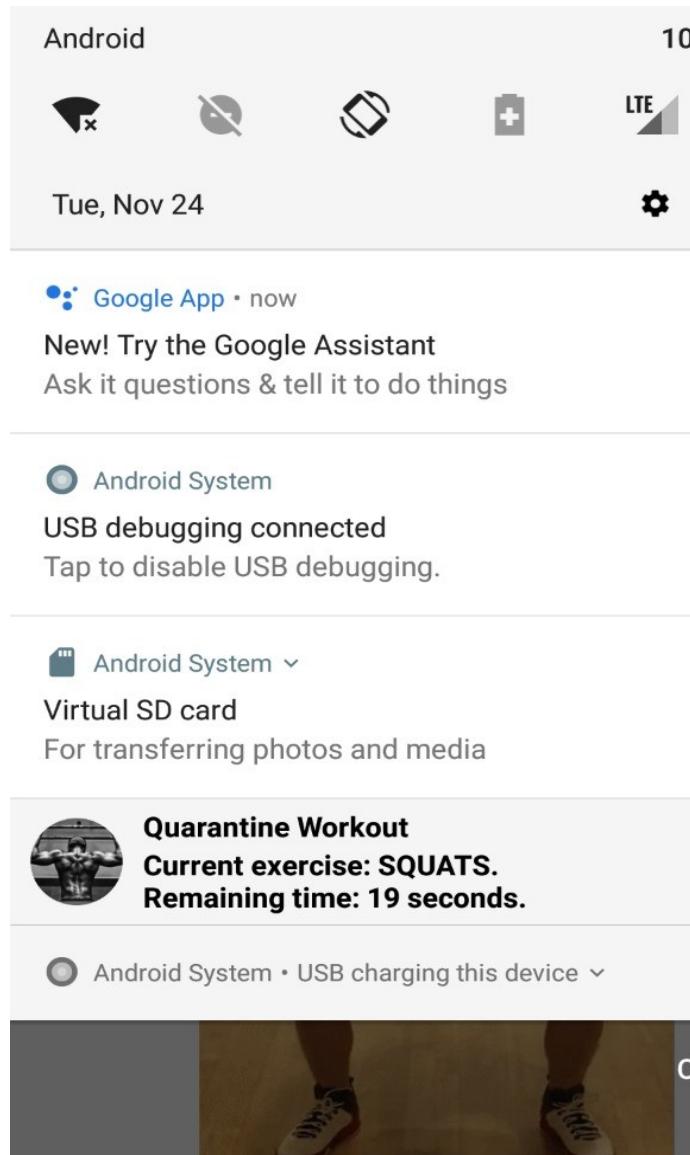


Figure 20:Notification panel

## Aborting workout

When the user wants to end its workout in middle of an exercise a warning is shown to confirm the user choice whether he wanted to exit it or it happened by mistake

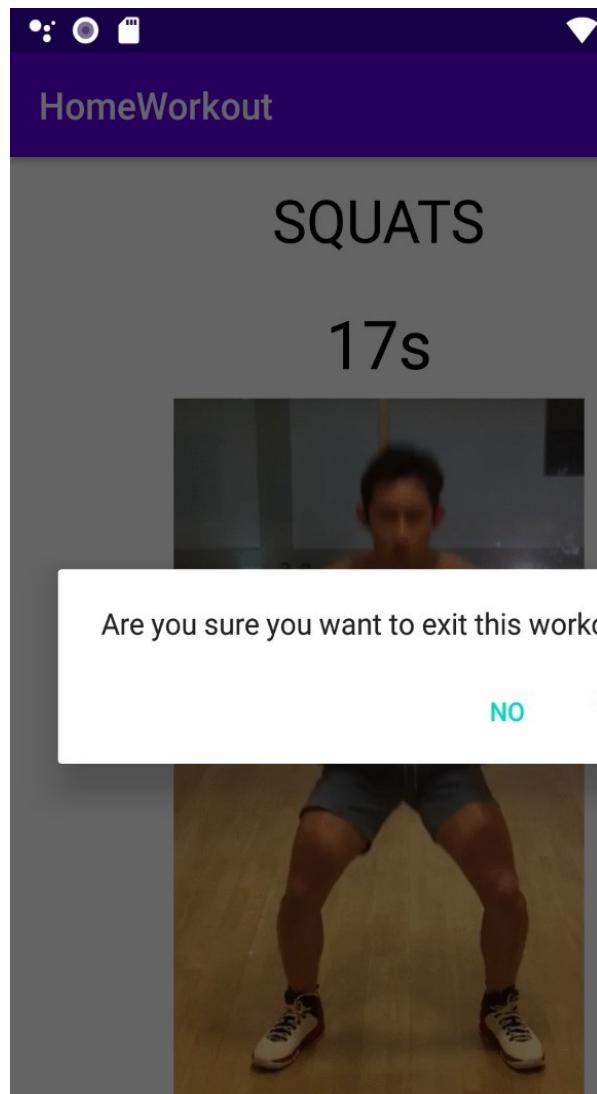


Figure 21:Exercise Abort

## BMI Calculator

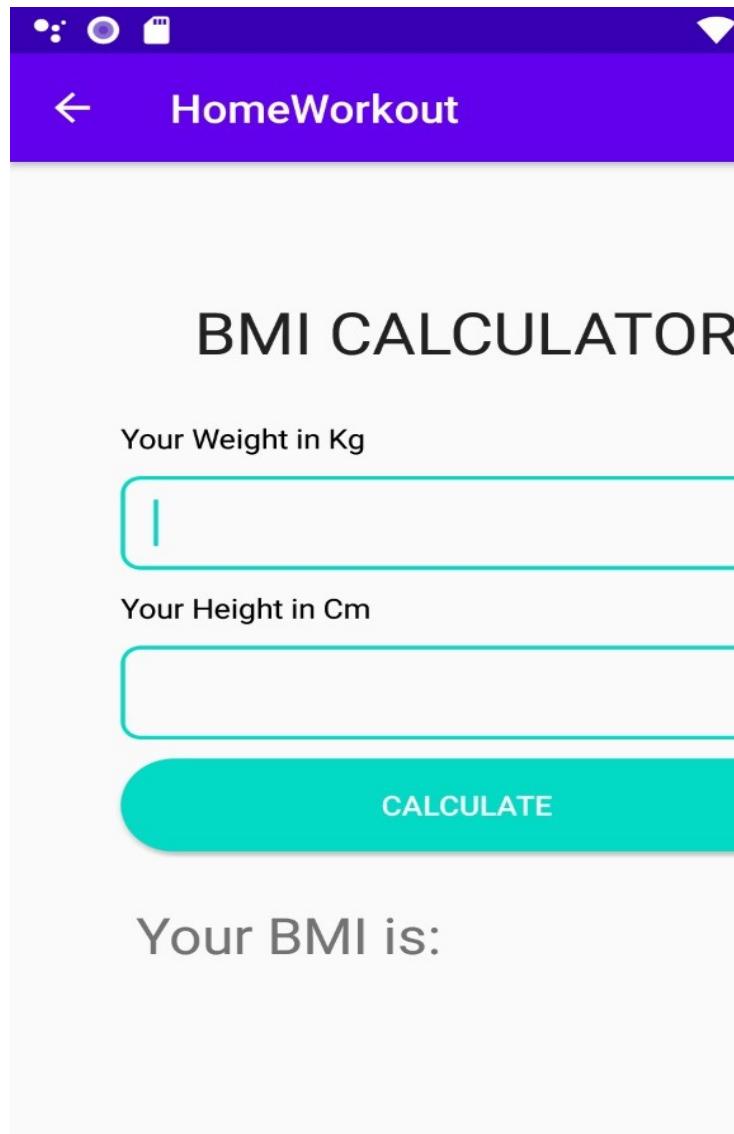


Figure 22:BMI Calculator

## Calculate BMI and Diet Link

After entering the weight in kg and height in cm the user can know his BMI along with result of being overweight or underweight and a link to appropriate diet chart

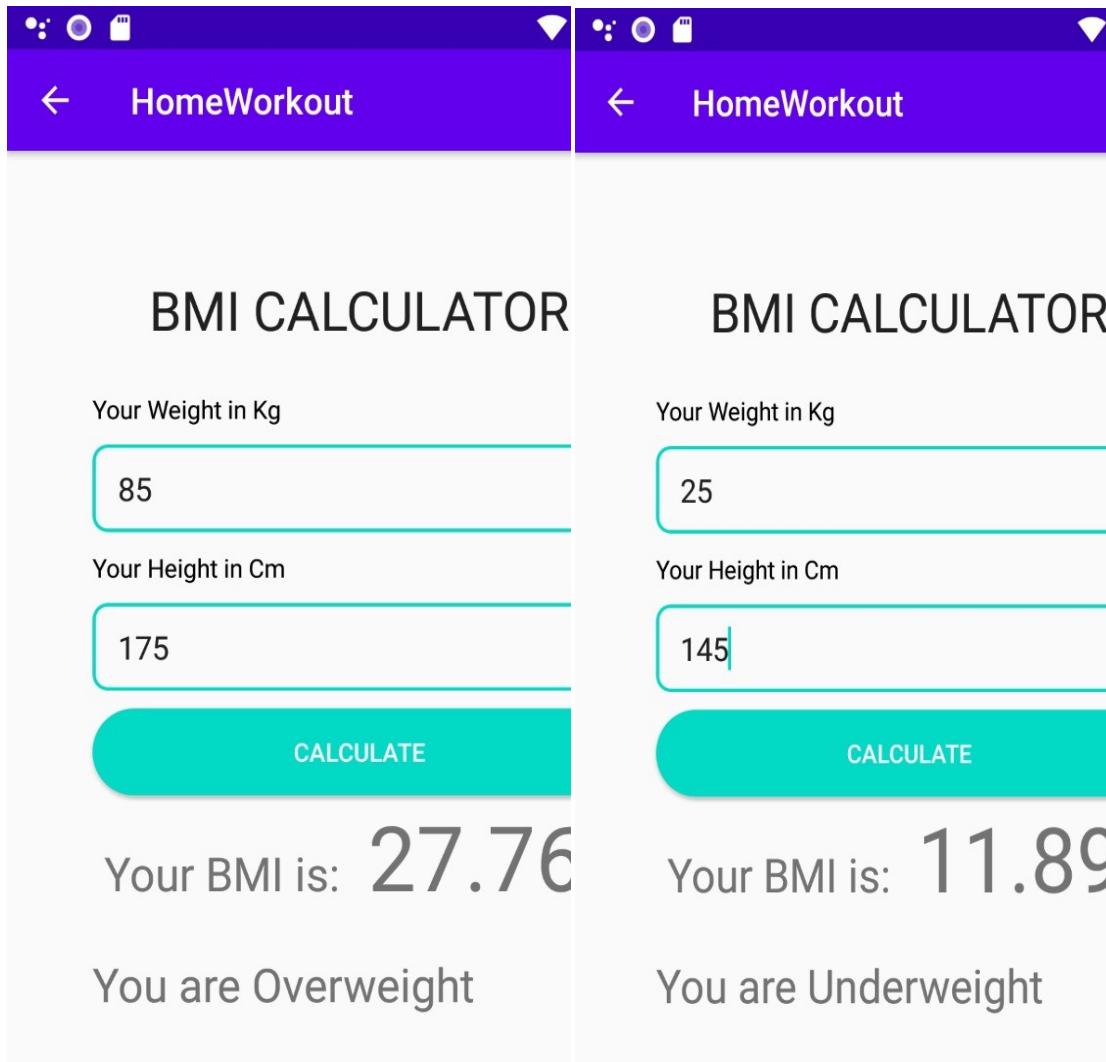


Figure 23: BMI result and diet

## Select day for diet chart

This page shows the days of a week from where the user can see the diet chart of particular week

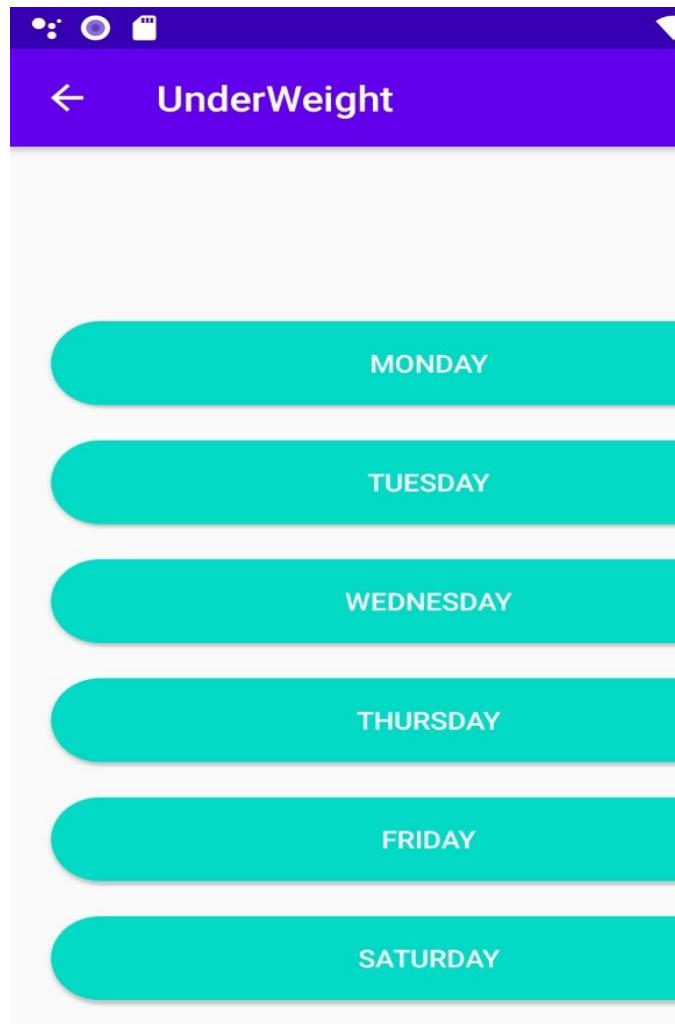


Figure 24:Day Selection

## Diet Chart for particular day

There is a complete diet chart for everyday of week according to time and different meals.

<b>Wednesday Diet</b>	<b>Saturday Diet</b>
<b>Breakfast (8:00-8:30AM)</b> 1.5 cup vegetable l upma + 1 cup milk cashews + 4 almond walnuts	<b>Breakfast (8:00-8:30AM)</b> 3 vegetable suji ch 1 cup strawberry s 4 cashews + 4 alm 3 walnuts
<b>Mid-Meal (11:00-11:30AM)</b> 1 cup ripe banana 2 tsp ghee	<b>Mid-Meal (11:00-11:30AM)</b> 1 cup coconut w 1 cup pomegranate
<b>Lunch (2:00-2:30PM)</b> 1 cup rajma curri cup spinach pot chapatti + 1/2 c + salad	<b>Lunch (2:00-2:30PM)</b> 1 cup mix dal + soybean curry + chapatti + 1/2 c + salad
<b>Evening (4:00-4:30PM)</b> 1 cup vegetable 1 cup upma	<b>Evening (4:00-4:30PM)</b> 1 cup fruit salad pc vegetable cut green chutney

Figure 25: Diet Chart

## The Navigation Bar

This has a direct link to the home page, BMI calculator and the diet chart according to the weight of the user.

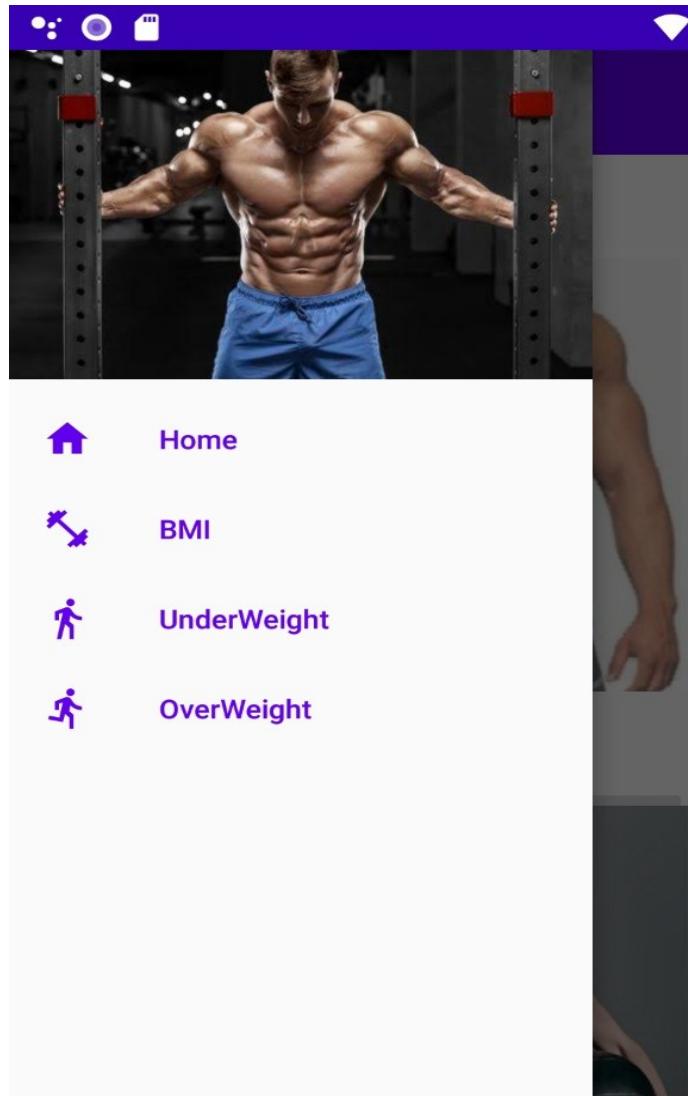


Figure 26:Navigation Bar

## **CONCLUSION AND FUTURE WORK**

### **CONCLUSION**

The main purpose of our project is to develop an application that offers new aspects of a healthy lifestyle in lifestyle area. Most of the available apps are entertainment-based, which mostly do not contribute to the health of individuals. The significance of this project is its importance in helping anyone want to be healthy or want to have fitness. It will help the people have a way to monitor the healthy food they are consuming. People will get everything at a single place without engaging in different applications. This project adds values in the areas of health and fitness by adding active application on mobile devices aimed to have the same functionality. The market needs an application that facilitates people to save and archive their data which this application is designed to do it.

This app contains exercises that can be easily done at home based on your gender. It also contains diet chart on a weekly basis according to your weight along with a BMI calculator. We have found that the data collection process is hard and time-consuming, but it can be managed by a team work. We hope that other developers will take advantage from our experience/from our development.

### **Future Work**

We are planning to keep managing the project and improving it based on user feedback. Here is our to do list for future

- We will add fun activities for kids
- We will make it secure by adding authentication page
- We will try to connect trainers and trainees for online consultation
- We will try to improve its quality.
- We will try to make it more user friendly

## **References**

- [www.google.com](http://www.google.com)
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