

Coursework Report

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1 Introduction

Throughout the years of being involved in sports and outdoor activities I have acquired a lot of knowledge and have struggled finding the right tools to help me achieve my goals, or if I have found them they would be separate and would have to use a few different ones to get the full picture. So I have decided to put all of the tools necessary to help you achieve your goals in one app. The inspiration of this app was the broad range of fitness apps on the Play Store, however, none of them have all of the functionalities you would need. The application gives you the ability to calculate your BMI(Body mass index), your TDEE(total daily energy expenditure) whilst giving you example calories if you want to lose, gain or maintain weight, macro calculator - which spreads the calories you had from the TDEE calculator in macro nutrients. And lastly there is a shopping list functionality in which you can add or remove items.

2 Software design

I have used bottom navigation in the website as it is pleasing to the eye as well as it is functional as well. There are three different navigation buttons, when pressed it switches between activities. There is the ability more buttons to be added in future when new functionalities will be implemented. Each activity has its own functionality.

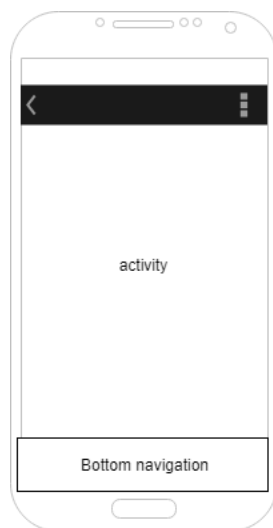


Figure 1: **Navigation** - Sketch of navigation of the app

3 Implementation

I have used bottom navigation as seen in the screenshots with a home screen briefly explaining the functionalities of the application.

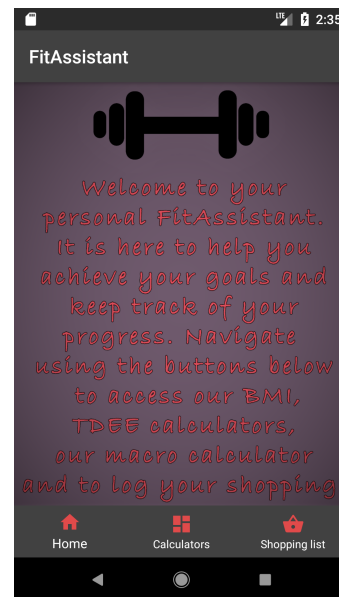


Figure 2: **Home screen**

3.1 Calculators

The calculators tab gives you the ability to use three different calculators. Each calculator is opened in new fragment.

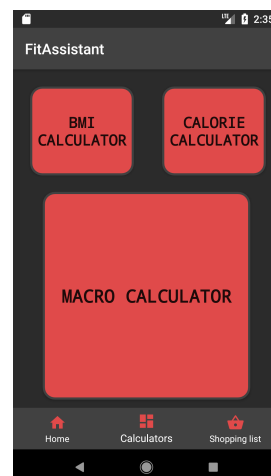


Figure 3: **Calculators**

3.1.1 BMI calculator

The BMI calculator gives you the ability to calculate your Body Mass Index when entering your weight(in kg) and your height(in cm).

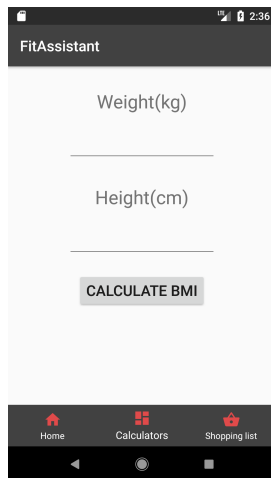


Figure 4: Body Mass Index calculator

3.1.2 TDEE calculator

The TDEE calculator gives you the ability to calculate your Total Daily Energy Expenditure when entering your weight(in kg) and your height(in cm), age, your activity level and your gender.

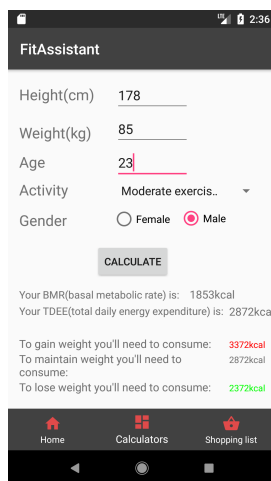


Figure 5: Total Daily Energy Expenditure calculator

3.1.3 Macro calculator

The macro calculator gives you the ability to calculate your macronutrients for the day when providing it with the result you got from the TDEE calculator.(See Fig. 6)

3.2 Shopping list

The shopping list tab gives you the ability to add or remove foods to/from your shopping list as well as the ability to clear the entire shopping list using the buttons on the action bar.(See Fig. 7)

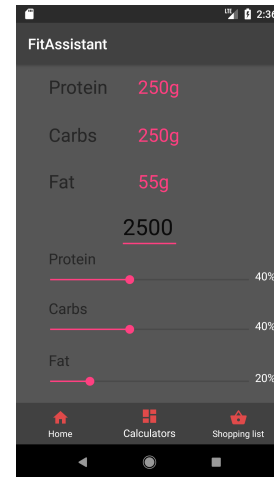


Figure 6: Macro calculator

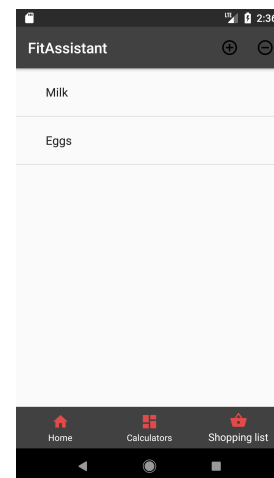


Figure 7: Shopping list

4 Critical evaluation

The original concept was to include food diary to the application as well as connecting it to food database API, however due to time constraints this functionality hasn't been implemented. Compared to other apps in the genre this one combines features of few different apps on the Play Store. Improvements can be done on the design of the app as well as adding additional functionalities, and making each fragment persistent. Also in future the ability to register users and keep track of your progress can be added.

5 Personal evaluation

I have learned a lot about mobile applications, as I have never had to work with Android Studio before. However, I was familiar with the Java programming language, as I have undertaken the Java course in first year. Using java in android is a bit different as you have to take into account that it will be used on a mobile device, which has its own limitations. One of the challenges was how to connect the different fragments and how the user can interact with them. After a lot of research on the web and after going through few tutorials I was able to comprehend how it works and implement it into my

application. I feel I have performed well in this assignment as it is the first mobile application I have created, however there is also room for improvement and I will continue developing this app, as I have many ideas and features that I still want to implement, but due to time constraints and lacking sufficient knowledge on more sophisticated methods, have not been able to do so.