

Exercise App Using Kotlin

A Project Work

Submitted in the partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE & ENGINEERING

WITH SPECIALIZATION

IN

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Submitted by:

Anand Svarup Bhatia(19BCS4257)

Utkarsh Chauhan(19BCS4270)

Shubham Mahajan(19BCS4275)

Utkarsh Singh(19BCS4280)

Rishab Sharma(19BCS4290)

SUPERVISORS NAME

Ms. Rana Gill



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

APEX INSTITUTE OF TECHNOLOGY

CHANDIGARH UNIVERSITY, GHARUAN, MOHALI - 140413,

PUNJAB

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DECLARATION

I, **‘Anand Svarup Bhatia’**, student of **‘Bachelor of Engineering in Computer Science and Engineering with specialization in Mobile Computing’**, session: **2019-2023**, Department of Computer Science and Engineering, Apex Institute of Technology, Chandigarh University, Punjab, hereby declare that the work presented in this Project Work entitled **‘Exercise App Using Kotlin’** is the outcome of our own bona fide work and is correct to the best of our knowledge and this work has been undertaken taking care of Engineering Ethics. It contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

Anand Svarup Bhatia

19BCS4257

Date: 25/04/2021

Place: Chandigarh University

Abstract

Exercise app using Kotlin helps you to get fit by just giving 7 minutes daily from your busy working schedule to gift yourself a better body. This app has all the bells and whistles to give you the fit and toned body you need for healthy lifestyle. With BMI calculator built in it helps to keep record of your health also the built-in exercise modes are simple and easy. No funky UI just clutter free and functional UI which is easy to navigate by person of any age. No ads or subscription, it is free always. It has no tracking of your other apps so it is safe and keeps your data protected. It doesn't sell you products so just an app not a shop.

ACKNOWLEDGEMENT

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

I am highly indebted to **Ms. Rana Gill** for their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project.

I would like to express my gratitude towards my parents and my department for their kind co-operation and encouragement which help me in completion of this project.

THANKS AGAIN TO ALL WHO HELPED

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Timeline

- 1. Start 8 February-** Setting up the UI, Adding of The Exercise Screen - Intents and Customizing Our Toolbar.
- 2. 10th February-** Implementing Custom UI Elements for a Progress-bar to Tick Counter clock Wise.
- 3. 12th February-** Using Count Down Timer to Display the Seconds Remaining, Implementing the Exercise Timer.
- 4. 15th February-** Adding the Model, Our Constants for The Exercises and Testing It.
- 5. 24th February-** Adding the Upcoming Exercise Text to The Rest View.
- 6. 1st March-** Adding Text to Speech to App.
- 7. 3rd March-** Adding A Media Player to Play A Sound Once the Exercise Is Over, Preparing the Recycler View for the Bottom to Display Exercise Numbers.
- 8. 4th March-** Creating Our Own Custom Recycler View Adapter and View Holder, Displaying the Recycler View with The Exercise Numbers.
- 9. 7th March-** Displaying at which Exercise we Currently are.
- 10. 10th March-** Creating the Finish Activity.
- 11. 11th March-** Setting Up the Custom Dialog For the back button.
- 12. 12th March-** Preparing the BMI Screen
- 13. 14th March-** Adding Custom Radio Groups with Custom Radio Buttons, Adding the US View Elements.
- 14. 14th March-** Finalizing the BMI Calculator with The US System, Adding the History UI And Activity.
[8:15 pm, 10/03/2021]
- 15. 18th March-** Checking the SQL Database on the Device Outside of the App
- 16. 24th March-** Adding the Sqlite Open Helper and Storing Date in the database.
- 17. 28th March-** Reading the database entries and preparing The List view Item Layout.
- 18. 4th April-** Adding the Recycler View and Finishing the App.
- 19. 8th April-** Testing the app for bugs.
- 20. 10th April-** Polishing the app and smoothening it.
- 21. 13th April-** Giving a real person to test the app and rate it.
- 22. 15th April-** DONE

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1) INTRODUCTION

a) **Problem Definition:** This version focuses on people's daily life and busy life, how to get enough exercise time without wasting a lot of time, and how to properly maintain your body shape and health.

b) **Project Overview/Specification:**

- The exercise app which is identical to 7 Minute workout will be implemented using Kotlin as the main language.
- The app will help the user to stay fit and stay in shape despite of a busy day to day life.

Specifications:

- Most popular Android functions are used, such as Recycle View, Firebase.
- The application connects to the Firebase database.
- Add BMI calculator to the app.

c) **Software Specification:**

- 4 GB RAM minimum, 8 GB RAM recommended.
- 3GB of available disk space minimum, 4 GB Recommended (500 MB for IDE + 1.5 GB for Android SDK and emulator system image)
- 1280 x 800 minimum screen resolution.
- Microsoft Windows 7/8/10 (32- or 64-bit). The Android Emulator supports 64-bit Windows only.

Windows requirements

- Microsoft Windows 7/8/10 (32-bit or 64-bit)
- 3 GB RAM minimum, 8 GB RAM recommended (plus 1 GB for the Android Emulator)
- 2 GB of available disk space minimum, 4 GB recommended (500 MB for IDE plus 1.5 GB for Android SDK and emulator system image)
- 1280 x 800 minimum screen resolution.

Mac OS requirements

- Mac OS X 10.10 (Yosemite) or higher, up to 10.13 (High Sierra)
- 3 GB RAM minimum, 8 GB RAM recommended (plus 1 GB for the Android Emulator)
- 2 GB of available disk space minimum, 4 GB recommended (500 MB for IDE plus 1.5 GB for Android SDK and emulator system image)
- 1280 x 800 minimum screen resolution.

2) LITERATURE REVIEW

a) **Existing System:** Thru detailed study conducted, few applications were studied and studies had following output:

1. Apps having equipment exercises which are not possible in current lockdown situation(Fig.1).
2. Apps had cluttered design (Fig. 2).
3. Apps were heavy and required internet access (Fig. 3).
4. Apps having ads and paid subscriptions (Fig. 4).
5. Apps giving advice to follow particular diet plan (Fig. 5).

The studies contained few of most popular apps:

1. Nike fitness +
2. Cult fit
3. Google fit
4. Adidas fitness
5. Healthify me.

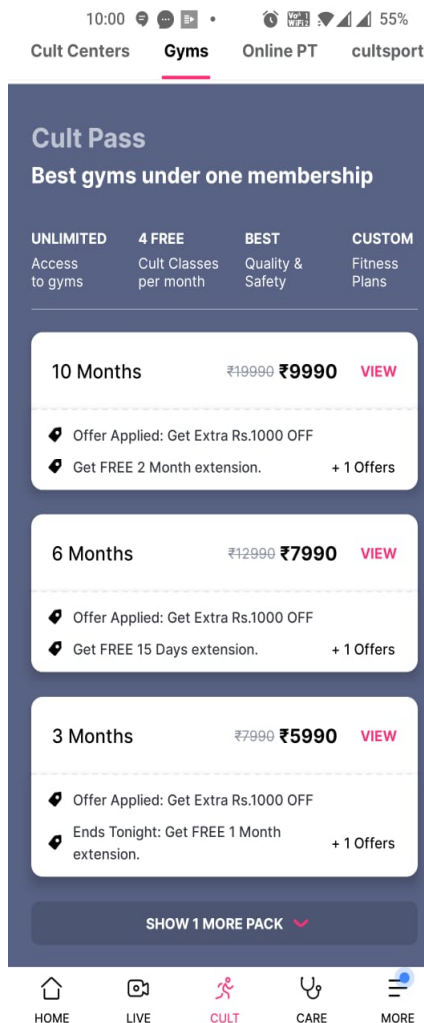


Fig. 1

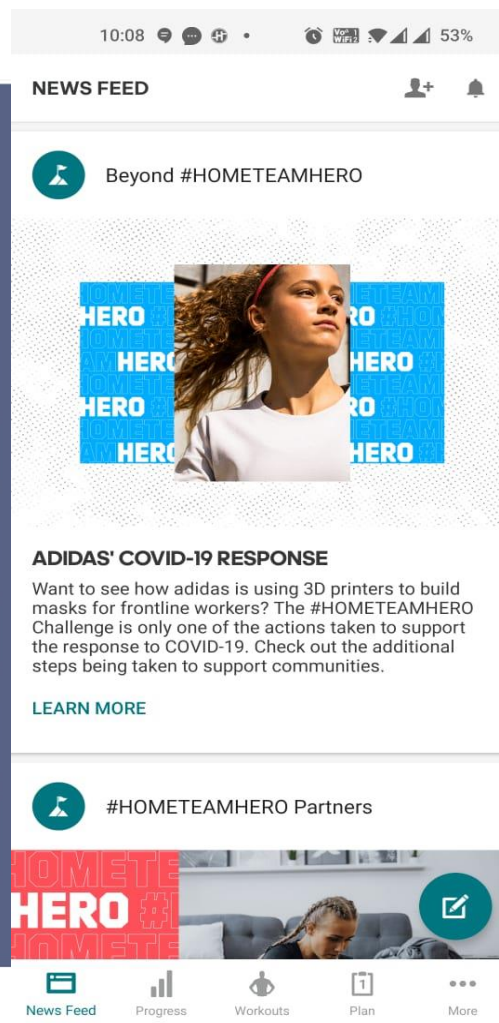


Fig. 2

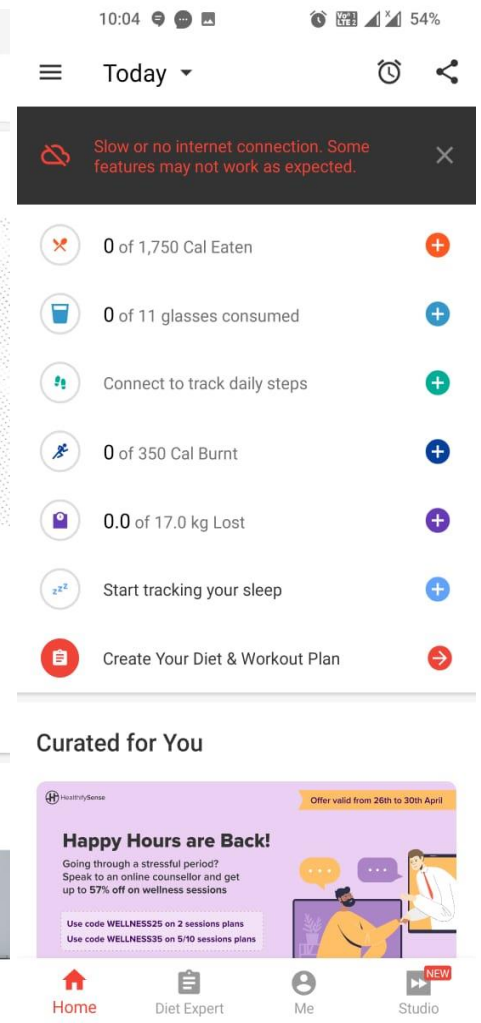


Fig. 3



Fig.4

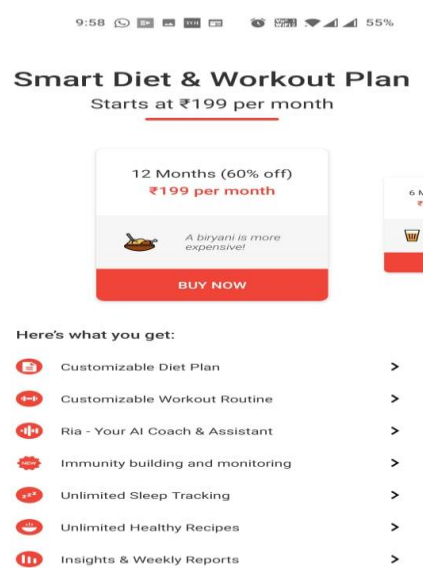


Fig. 5

b) **Proposed System:** With proposed system, the cons of existing system were minimized and eliminated:

1. Full app content is offline.
2. App has a clutter-free and burdenless design.
3. App doesn't have subscription model or any paid content.
4. No diet plan to be followed.
5. No equipment required.

These are some pictures of proposed system.



Fig. 6

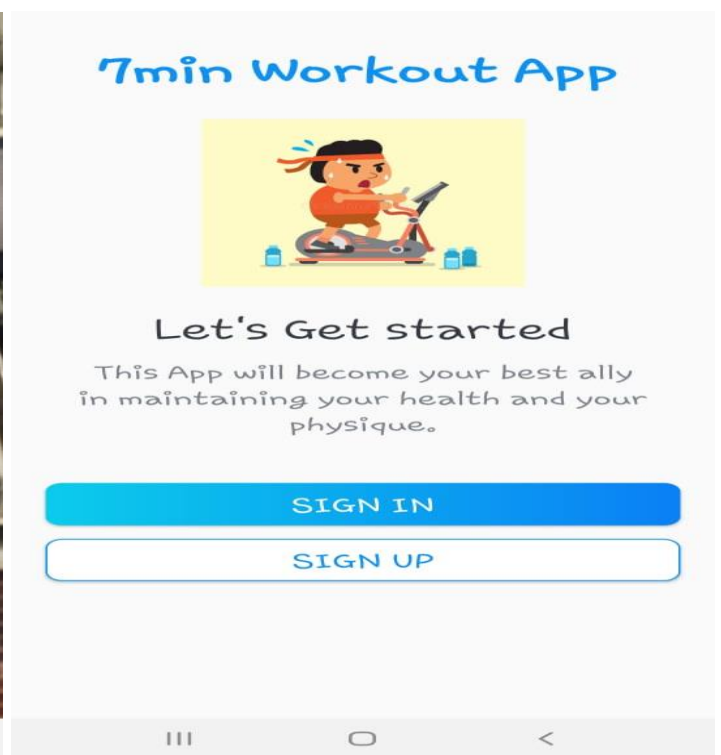


Fig. 7

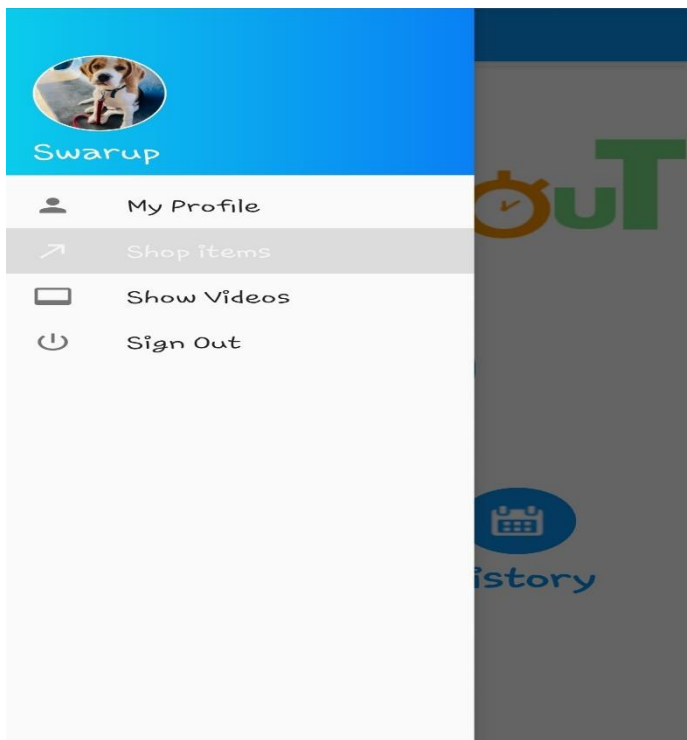


Fig. 8

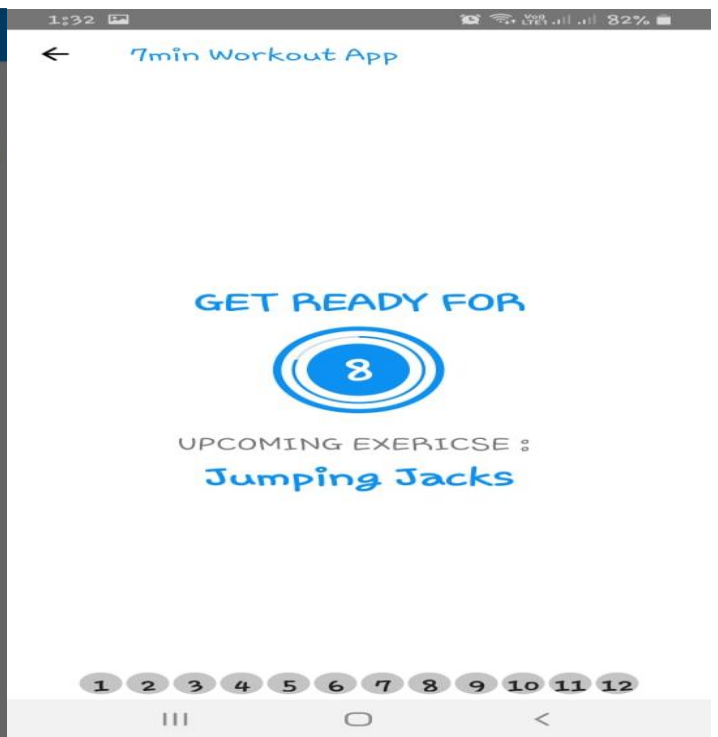


Fig. 9

3) PROBLEM FORMULATION

During software development, The main problem with the existing app is that it deals with unnecessary exercise and focus too much on the UI which makes the app heavy and therefore it takes some time to launch on the device. This app will not focus much on the UI but it will take into account what exercise is necessary i.e. which targets all the body muscles in proper proportions without the use of any outside tools like Dumbbells, etc. Also, this app will be very light and therefore it will not take up unnecessary memory of your android device.

From the literature review, it is observed that studies highlight the need of efficient and time saving approach of the Exercise App Using Kotlin. The existing apps are not able to cope up with the time management of those, who are not able to devote much time to the gym. Different approaches suffer from

- 1) Lack of time
- 2) Expensive solutions
- 3) Strict Food diet.

So firstly, there is a need of an app that works flexible as per the home Schedule of an individual and also that is more time saving and Absolutely Free. Second this app must be compared with the current Exercising Apps that are available on the Mobile platform and time: efficiency ratio should be calculated.

4) RESEARCH OBJECTIVES

The proposed research is aimed to carry out work leading to the development of an approach for the Exercise App using Kotlin. The proposed aim will be achieved by dividing the work into following objectives:

- 1) Since majority of the people are not able to provide much of their time for gym, this app is fully flexible as per your own routine.
- 2) Also, even if you cannot give or devote much of your time on exercising, no need to worry about. This App will just take few minutes to get you all ready.
- 3) Unlike other apps, that are too confusing for the Non- techno friendly people, this app's interface is based on the design that is easy to use and is more interactive.
- 4) Specifically, wouldn't need a particular diet plan, because this app doesn't make you to follow any specific diet plan.
- 5) Also, this app is doesn't require any payment methods, it is absolutely Free.

5) METHODOLOGY

The following methodology will be followed to achieve the objectives defined for proposed research work:

- 1) Detailed study of exercise apps will be done.
- 2) Installation and hand on experience on existing approaches of exercise apps will be done. Relative pros and cons will be identified.
- 3) Various parameters will be identified to evaluate the proposed system.
- 4) Comparison of new implemented approach with exiting approaches will be done.
- 5) Feedback will be taken from research.
- 6) New ideas will be implemented to eliminate cons.

6) RESULT AND CONCLUSION

As one can observe that the app is very much ready for daily exercises and beside that we can also add some new features like –

- 1) The app can be connected to the operating base so that a group of people can compete face whether they will watch each other move forward or just watch if you do something exercise properly.
- 2) It has built in fitness store to cater all your fitness needs.
- 3) It has video coaching with informative videos all free of cost so that you see and learn at comfort of your home.

7) REFERENCES

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