A PROJECT REPORT

ON

“Be Fit - Fitness App”

SUBMITTED BY

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UNDER THE GUIDANCE OF

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SAVITRIBAI PHULE PUNE UNIVERSITY (SPPU)
MASTER OF COMPUTER APPLICATIONS

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(Approved by All India Council for Technical Education & Recognized by the Savitribai Phule Pune University)

CERTIFICATE

This is to certify that **Ms Kusum Pareek** has successfully completed the project on **"Be Fit - Fitness App"** as partial fulfilment of her **Master of Computer Applications (MCA)** under the curriculum of **Savitribai Phule Pune University, Pune** for the academic year 2022-23.

Mrs Swati Bhat	Dr Shikha Dubey	Dr Meghana Bhilare
Internal Guide	**H.O.D. MCA**	**Director**

Signature
Name
Internal Examiner
Date:

Signature
Name
External Examiner
Date:

Acknowledgement

The success and final outcome of this project required a lot of guidance and assistance from many people. We are extremely privileged to have gotten this all along with completing our project. All that we have done is only due to such supervision and assistance and we will not forget to thank them.

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Introduction

“Be. Fit” app is a fitness app that aims for a healthy way to achieve fitness. Similar to other fitness it has Steps Counter, Nutrition checker and BMI Calculator features. It also has music videos for meditation and relaxation videos of Yoga, asanas’ and other exercises.

There are many fitness apps on the play store and app store. The typical features of a fitness app are a step counter, calorie tracker, nutrition tracker, sleep tracker, water reminders, etc. Some fitness apps also have relaxing music, exercise videos, inspirational videos, etc.

The proposed fitness app contains various features of a general fitness app like a step counter, nutrition check and BMI calculator. It also has relaxing music videos and videos of yoga, asanas and other exercises. There is a dashboard where the user can view his daily step count target. This app is targeted at all age groups. It will help users to maintain a healthy life.

1.1 System Overview

“Be. Fit” app is a fitness app that aims for a healthy way to achieve fitness. This fitness app contains various features of a general fitness app like a step counter, nutrition check and BMI calculator. It also has relaxing music videos and videos of yoga, asanas and other exercises. There is a dashboard where the user can view his daily step count target. This app is targeted at all age groups. It will help users to maintain a healthy life.

Most people are victims of busy lifestyles and lose their time managing personal responsibilities, household chores, and desk jobs. When they have to make time for exercise, they eventually end up quitting. But fitness apps can help them make time for themselves and develop healthy habits step by step.

People often assume that fitness only comes from heavy exercise. But even the small things matter. For example, bike riding or a walk around the block. “Be. Fit” app can present these opportunities to them and send notifications to remind them to maintain regularity.

1.2 Definitions, acronyms, and abbreviations

Admin	Person who is responsible for all the data and management of the system.
OS	Operating System
CPU	Central Processing Unit
UI	User Interface
RAM	Random Access Memory

1.3 Project Functionalities

- **OnBoarding Page**

  This page is displayed only once when the user installs our app for the first time.

- **Set Profile Page**

  This page is the first page that opens when the user registers himself on our app. It is mandatory for the user to set up his profile before he can further use the app. Here, the user has to provide basic details like name, gender, date of birth, weight, height, profile image, etc. After successfully submitting the details user will be redirected to Home Page.

- **Home Page**

  This page is the first page that opens when the already registered user logs into the app. This page has three features: Step Counter, Check Nutrients, and BMI Calculator. The step counter displays the steps that the user's device has sensed. Check nutrients are used to search and view the nutrients that are present in the food the user searches for. BMI Calculator displays the BMI of the user calculated based upon the values given by the user when setting the profile.

- **Step Count Progress**

  On this page the progress of the user's current steps against his set daily target is shown in a Radial Progress Bar. The default value of the daily target is set to 1000.

- **Fitness Page**

  This page will display relaxing music videos and videos of yoga, asanas and other exercises.

- **Profile Page**

  User can see his profile picture and name on this page. He can also update his profile details from this page by clicking his image.

- **Login Page**

  Registered users can log in to the "Be.Fit." app through the login form. He can also use Google Sign-In to log in to the app with one click.

- **Sign Up Page**

  Users can register to the “Be.Fit.” app through the sign-up form. He can also use Google Sign-In to log in to the app with one click.

- **Logout**

  After clicking on this button, the user can log out of the app.

1.5 Operating Environment:

1. Client-Side Requirements:

Hardware	**Software**
Android Handset	OS: Windows 10 or later (64-bit), x86-64 based, Android OS
RAM: 2GB and above	API Level: Targets API level 19 (KitKat) or higher
Disk Space: 1.64 GB	Android Version: Uses Android 4.4 or higher

2. Server Side Requirements:

Hardware	**Software**
Android Handset	OS: Android OS
RAM: 2GB and above	API Level: Targets API level 19 (KitKat) or higher
Storage: 4GB and above	Android Version: Uses Android 4.4 or higher

Proposed System

2.1 Scope of the Proposed System

- A user first needs to register using email credentials or by using Google Sign-in/up. Only then he is eligible to use the app.
- If in any case, the user forgets his password a reset password link is sent to his registered email id.
- onBoarding screen is used to introduce the user to the app.
- User can track his steps against the daily target and view the day's progress in a radial bar on the steps dashboard.
- User can check the nutrients of the food he searches for.
- The user can set or edit his profile.
- The BMI of the user is calculated based on the details he fills in the profile.
- Users can also view videos of meditation, yoga, exercises, etc.
- Users will receive push notifications.

2.2 Objectives of the System

- Most people are victims of busy lifestyles and lose their time managing personal responsibilities, household chores, and desk jobs. When they have to make time for exercise, they eventually end up quitting. But fitness apps can help them make time for themselves and develop healthy habits step by step.
- "Be. Fit" app is a fitness app that aims for a healthy way to achieve fitness.

2.3 Feasibility Study

A feasibility study is carried out to select the best system that meets performance requirements.

Feasibility is the determination of whether or not a project is worth doing. The process followed in making this determination is called a feasibility study. This type of study determines if a project can and should be implemented or not.

Since the feasibility study may lead to the commitment of large resources, it becomes necessary that it should be conducted competently and that fundamental errors of judgment are made.

Feasibility analysis involves the study of the economic, technical and behavioural factors in the system.

1. **Technical Feasibility**: - Checks for the existing hardware and software and to what extent it can support a proposed addition. Since the app is the android every user is assumed to have internet access. So, the proposed system is technically feasible.

2. **Economic Feasibility**: - Checks for the cost-benefit analysis of the candidate system. The procedure is to determine the benefits and savings that are expected from a "Be.Fit." and compare them with the cost. The system may have ads and paid gym training and other useful resources for fitness.

3. **Behavioral Feasibility**: - Considers the reaction of the users to interface and easy navigation. Thus, the proposed system is technically, economically as well as behaviorally feasible to be developed and implemented.

Thus, the proposed system is technically, economically as well as behaviorally feasible to be developed and implemented.

2.4 User Requirement Specification:

According to a survey, the following are some Client Requirements:

- System should store all the information about registered users for the login and registration process.
- The Graphical User Interface of the system should be creative and easy to use.
- User should fill out true information in order to get good search results.
- The registration page should be accessible to all users.
- User should enter valid details while registering and setting up the profile.
- User should have a stable internet connection.

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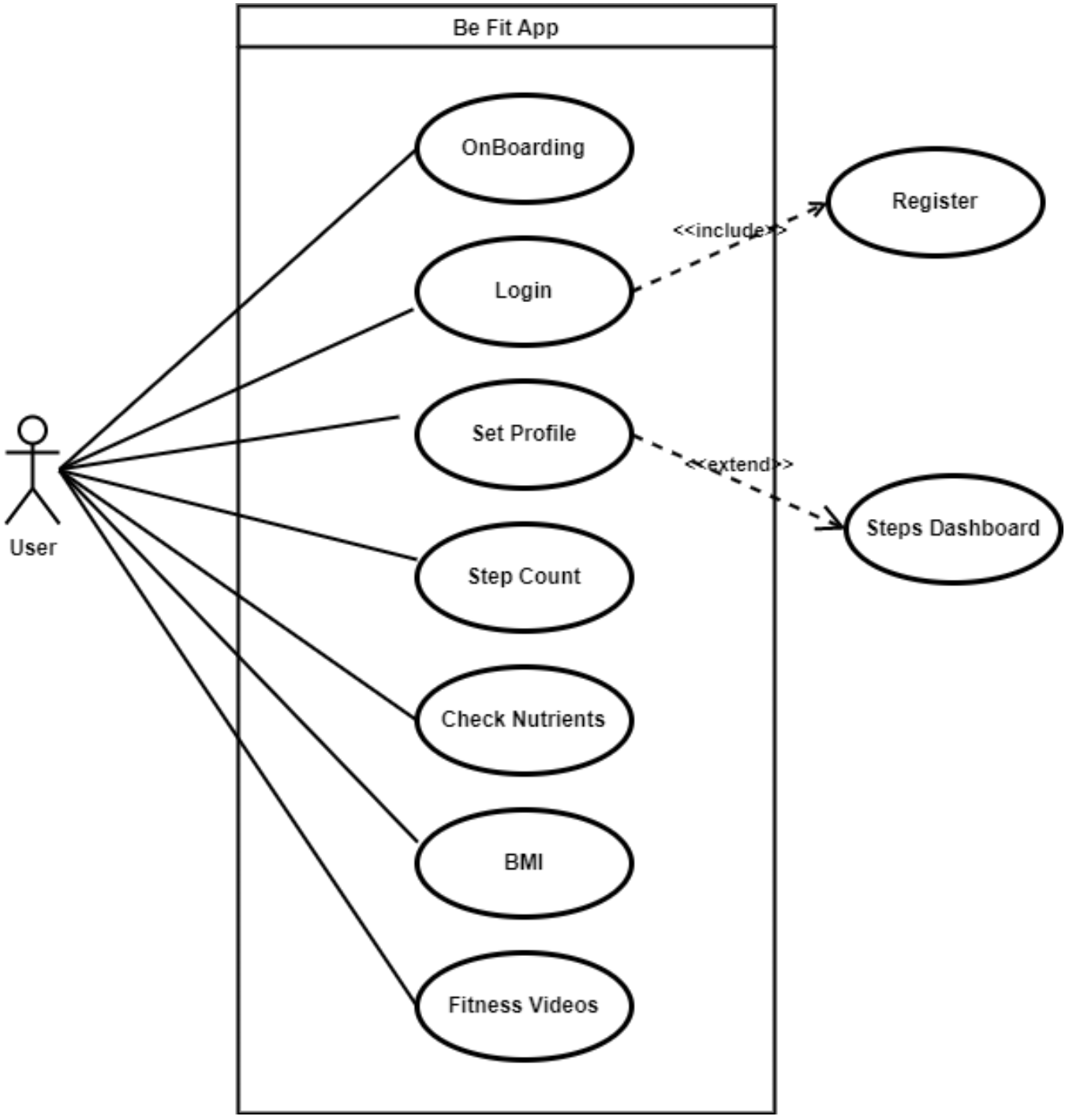
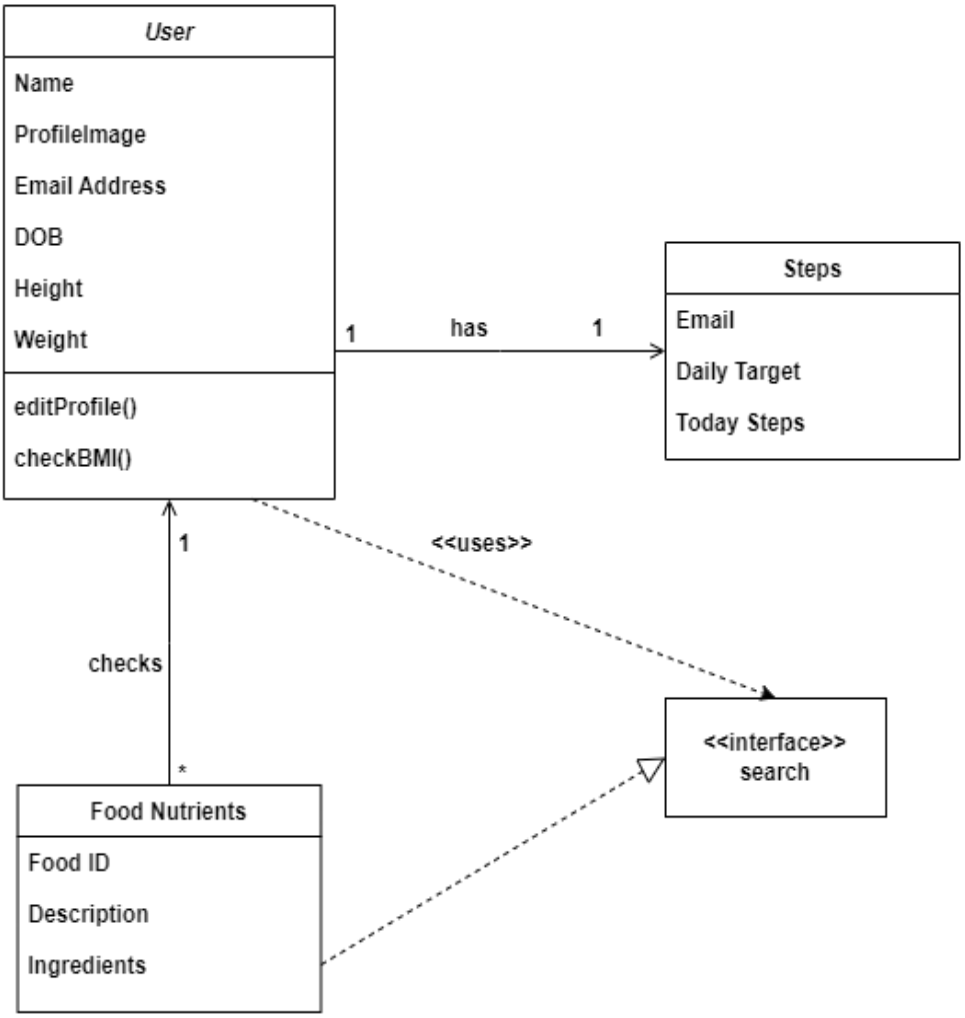
System Analysis & Design

System Analysis is the process of gathering and interpreting facts, diagnosing problems and the information about the" Be.Fit." to recommend improvements to the system. It is a problem-solving activity that requires intensive communication between the system users and system developers. System analysis is concerned with becoming aware of the problem, identifying the relevant and decisional variables, analyzing and synthesizing the various factors and determining an optimal or at least satisfactory solution to a problem.

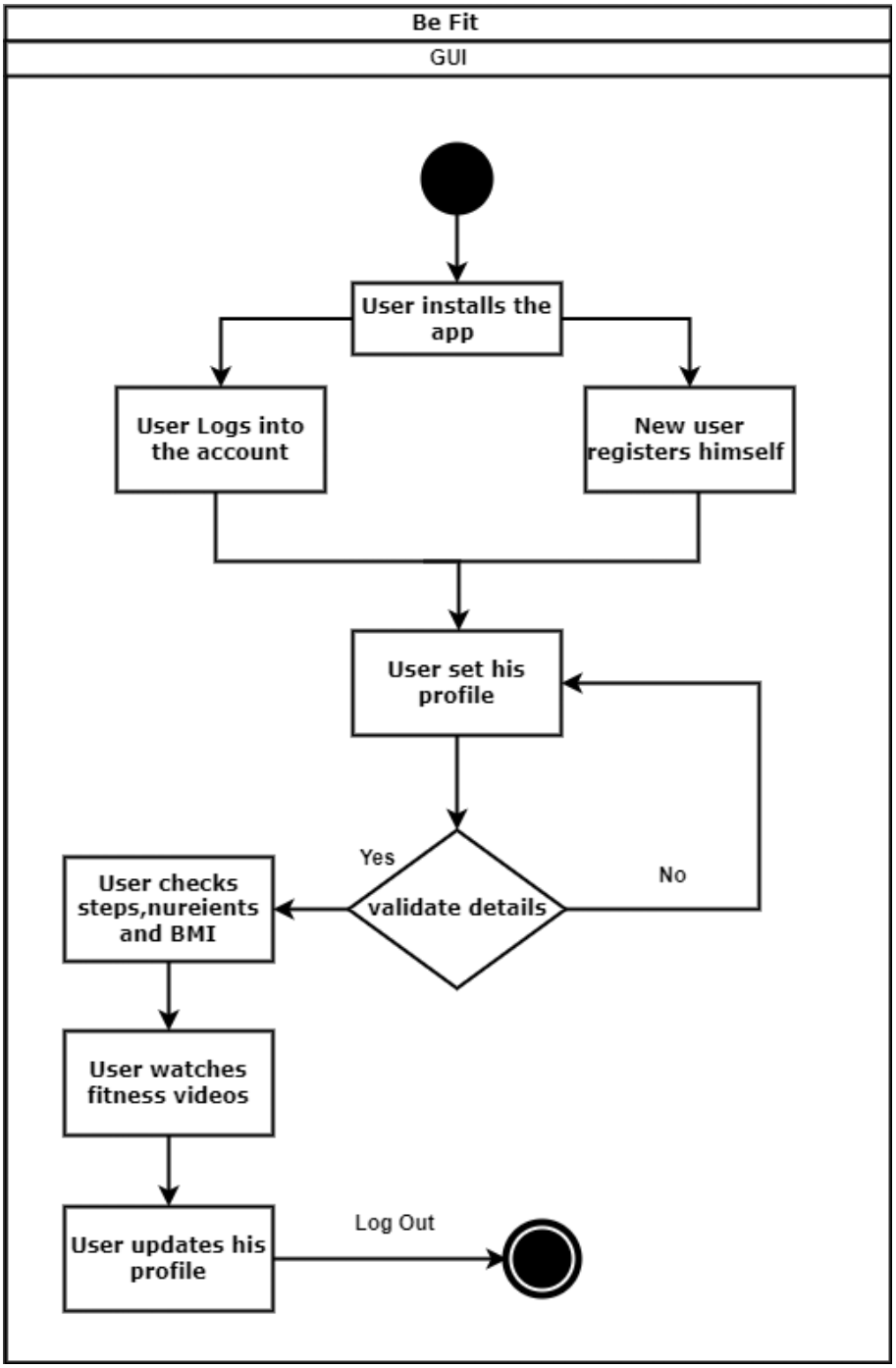
3.1 Use Case Diagram



3.2 Class Diagram



3.3 Activity Diagram



3.4 Data Dictionary

1. **User Collection:**

No.	Field Name	Field Type	Description
1	UID	String	Stores unique user id
2	Name	String	Stores User name
3	EmailID	String	Stores user email
4	Profile Image	String	Stores profile picture
5	Gender	String	Stores gender
6	Height	number	Stores height
7	Weight	number	Stores weight
8	DOB	timestamp	Stores DOB

2. **Target Collection:**

No.	Field Name	Field Type	Description
1	UID	String	Stores unique user id
2	Daily_target	number	Stores daily target
3	Today_Steps	number	Stores current day’s step

3. Food Collection:

No.	Field Name	Field Type	Description
1	FoodID	String	Stores unique food id
2	Description	String	Stores food description
3	Ingredients	String	Stores food ingredient
4	Food Category	String	Stores food category
5	Food Nutrients	String	Stores food nutrients

4. Food Nutrients Collection:

No.	Field Name	Field Type	Description
1	Nutrient ID	String	Stores unique nutrient id
2	Nutrient Name	String	Stores nutrient name

User Manual

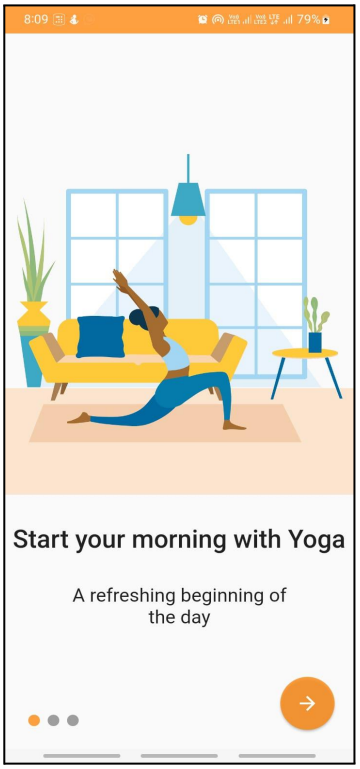
Operational Instructions:

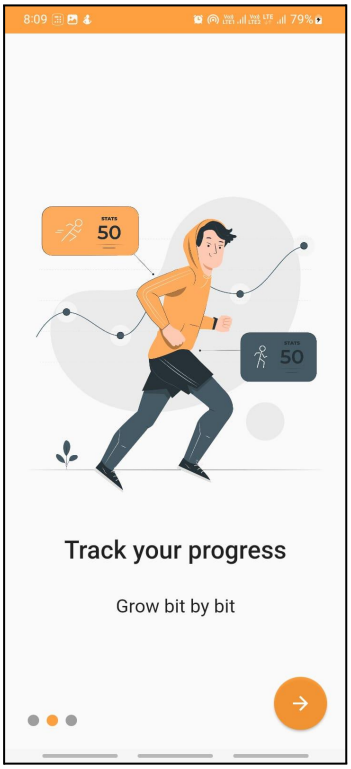
1. The system requires a stable internet connection to use features of the “Be. Fit” app.

2. User can do the following:
    i. Users can navigate to all tabs i.e. Home, Fitness and Profile after registering successfully.
    ii. Users can log out by the button on the right corner.
    iii. Only registered members can use the app.
    iv. Users can view the daily step count and check its progress against their daily target.
    v. Users can check their BMI.
    vi. Users can also search for food items and check their nutrient information.
    vii. He will also receive push notifications from the app.

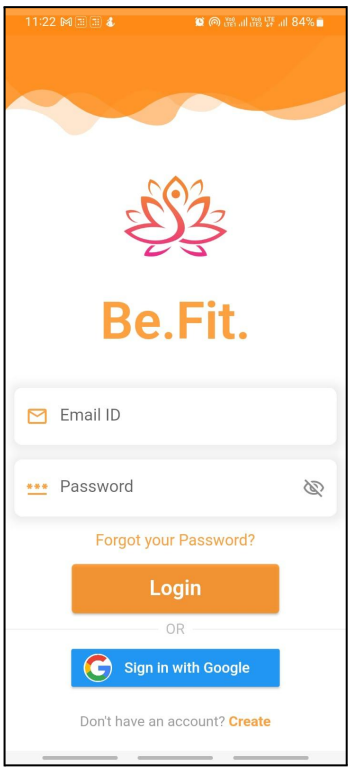
User Interface Screens

1. OnBoarding Page:

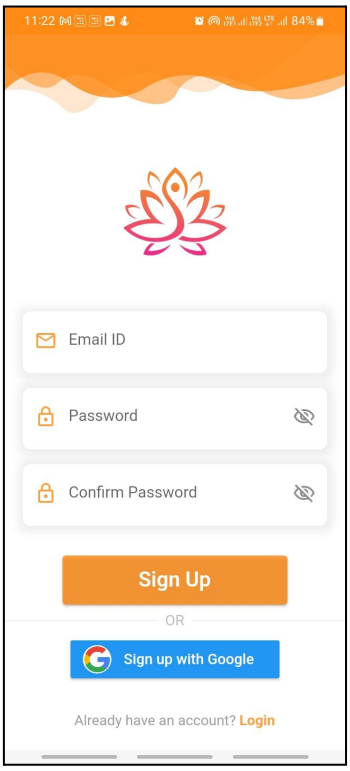




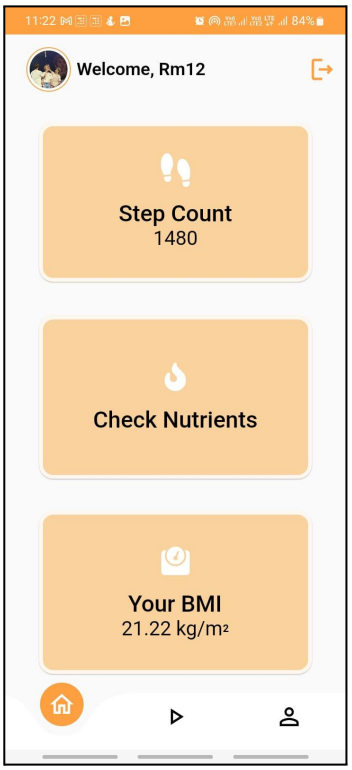
2. Login Page:



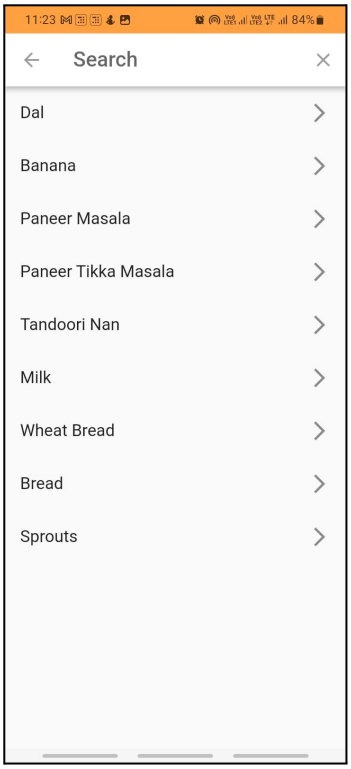
3. SignUp:

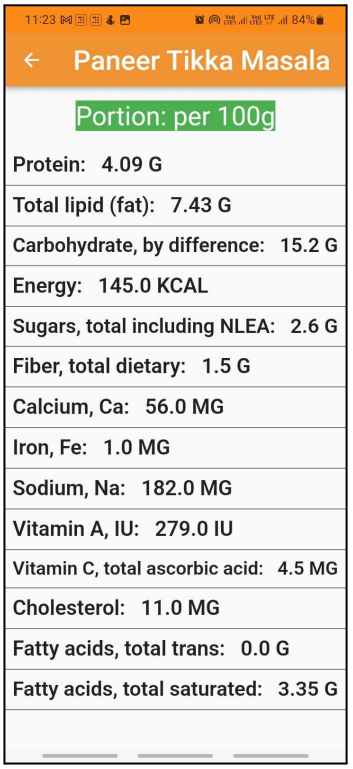


4. Home Page:

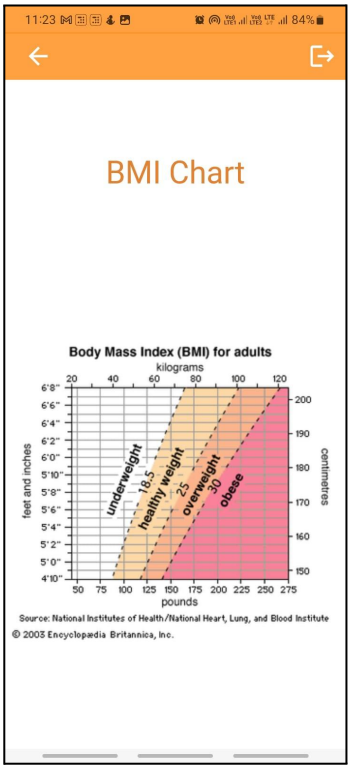


5. Check Nutrients Page:

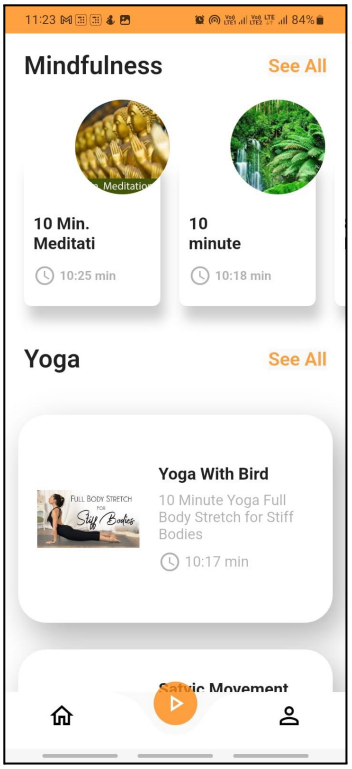




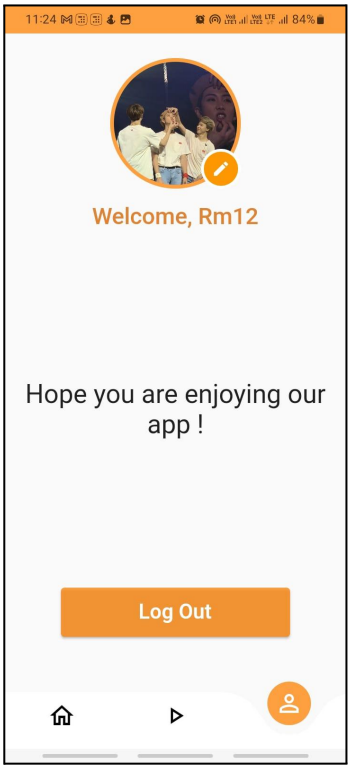
6. BMI Page:

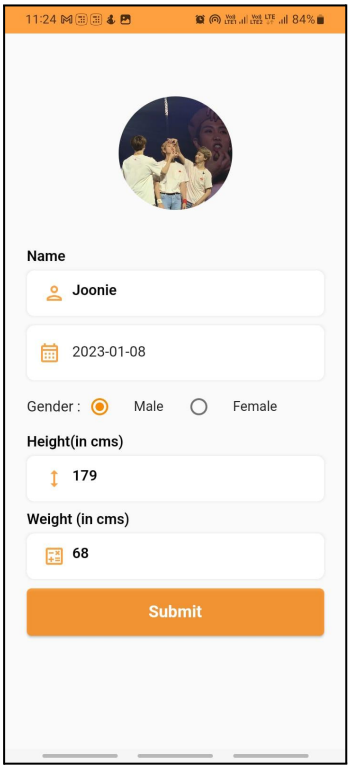


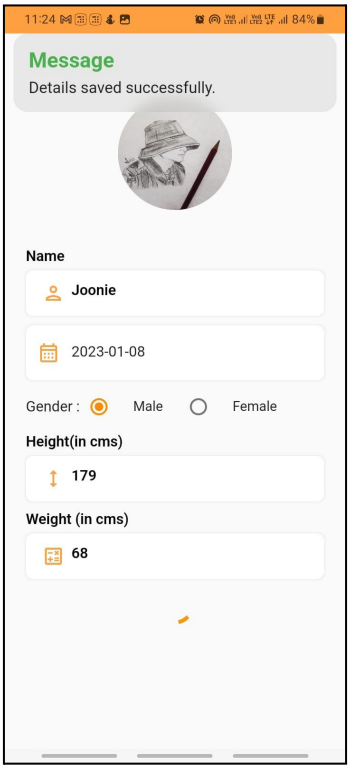
7. Fitness Page:



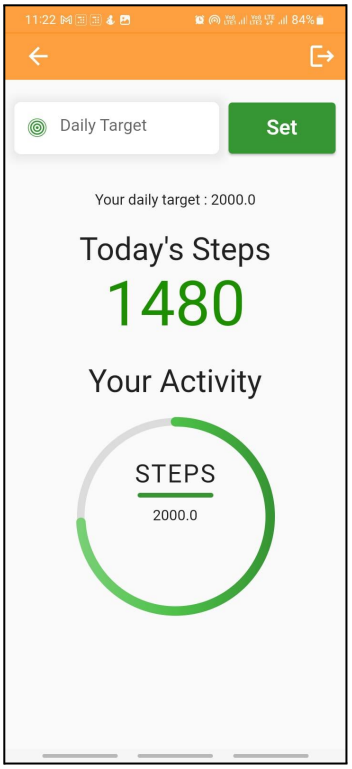
8. Profile Page:







9. Steps Dashboard:



System Limitation

During the course of all project work, certain boundaries were identified. The following points are briefly expressed so that the person who may be involved in future improvement will have an overview of the process of this project.

- Only the current day's steps are stored to show the progress of the current day.
- List of food items that users can search for is currently limited.
- Currently, only the Google Sign-In providers can be used.
- Customised diet plans for users are not possible.

Future Enhancement

- Tracking of height, weight, etc. can be done to provide customized diet plans to users for weight gain/loss.
- Currently, the app can’t run offline as all the data is stored on the cloud. Some of the data can be stored on the local storage of the user’s device to improve usability.
- AI/ML can be integrated to improve the app’s performance and usability.
- The app can be extended for other OS like iOS or integrated with smartwatches through wear OS.
- Admin module can be added to manage the workouts, meditation, yoga, etc.
- Other features like sleep tracking, water reminder, etc. can be added.

Conclusion

- The system developed is able to meet all the basic requirements.
- The development and implementation of this system have been carried out successfully.
- Advancing features of the present system are added, considering the present system design has been developed.
- It is very simple and comfortable to understand at all levels.
- The system was tested, validated and found to be a working prototype.
- The system is flexible and all the modules can be integrated and modified easily.

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