Ahmedabad University

Human-Computer Interaction Project

CSE519

Team Social Mavericks:

Group 17

Name	**Roll Number**
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Final Report

Product: Mobile Application

The focus of the project: Health Care and Fitness

Name of the App: HealthoHolic

Tools: Figma

Final Video Link:
https://drive.google.com/file/d/1GBFJBevrFkjtBX72FMtEZNCbOh8K-eph/view?usp=sharing

Figma Link:
https://www.figma.com/file/PNuoPtI7JYX1rKamMCSOeZ/HCI_Project_HealthoHolic?node-id=0%3A1&t=HZPG2f81ZqErYB9T-1

Chapter 1: Introduction

Motivation:

In recent years, health and fitness have risen to the top of the priority list for people of all ages. Individuals can now track their progress and stay motivated to attain their fitness objectives thanks to technological advancements. Designing a user-friendly application with an intuitive user interface that smoothly integrates technology into the user's fitness regimen, on the other hand, might be a difficult undertaking. Human-Computer Interaction (HCI) is critical in creating user-friendly, visually appealing, and efficient software. We can assist users reach their fitness objectives while also making their experience seamless and pleasurable by building an HCI-based app for health and fitness.

Overview of Project:

The goal of this project is to develop the user interface (UI) of a health and fitness app. The application will be designed to give users a smooth experience. The user interface design would be built on HCI principles, taking into account the user's demands, preferences, and restrictions. Doing user research, generating personas, and designing wireframes and prototypes based on user feedback will all be part of the project. Usability and user satisfaction will be assessed in the final design. The project's ultimate goal is to produce an app that is visually appealing, intuitive, and useful in assisting users in reaching their fitness goals.

Market Survey:

It is essential to undertake a market study before creating the user interface of a health and fitness app in order to understand current trends, competition, and user preferences. With the rise of wearables such as smartwatches and fitness bands, there is an increased demand for mobile applications that can easily interface with these devices. Furthermore, consumers choose apps that provide features such as personalized workout routines, calorie tracking, and social sharing options to help them reach their fitness objectives.

Chapter 2: Details of Tools

Brief Description of facilities available:

Figma Features

1. **Collaborative Design:**

   Figma's collaborative design capability is one of its most recognized features. Multiple designers can collaborate on a design project in real time from different locations. Designers can work together in real time by making changes, adding comments, and conversing via the software. This capability is very beneficial for scattered teams that work remotely. Designers may use Figma's real-time collaboration function to ensure that everyone in the team is on the same page and can make design decisions together, resulting in more efficient and effective design processes.

2. **Prototyping:**

   The prototyping function in Figma enables designers to generate interactive prototypes of their concepts that can be shared with stakeholders and clients. Designers can use this functionality to add links/flows between different frames in their designs, as well as add animations and interactions and preview their prototypes in real time. This feature is very important for user testing because it allows designers to test how users interact with their designs and make modifications as needed.

3. **Layers:**

   Figma layers are similar to layers in other design applications like Adobe Photoshop or Illustrator. Layers allow you to organize and manage design elements in the project. A single design element, such as an image, text, or shape, is represented by a single layer. Layers can be readily moved, concealed, or locked to assist designers in concentrating on

key areas of their design. Designers in Figma may also create frames, which act as containers for design elements and serve to further organize and structure the design.

4. Plugins:

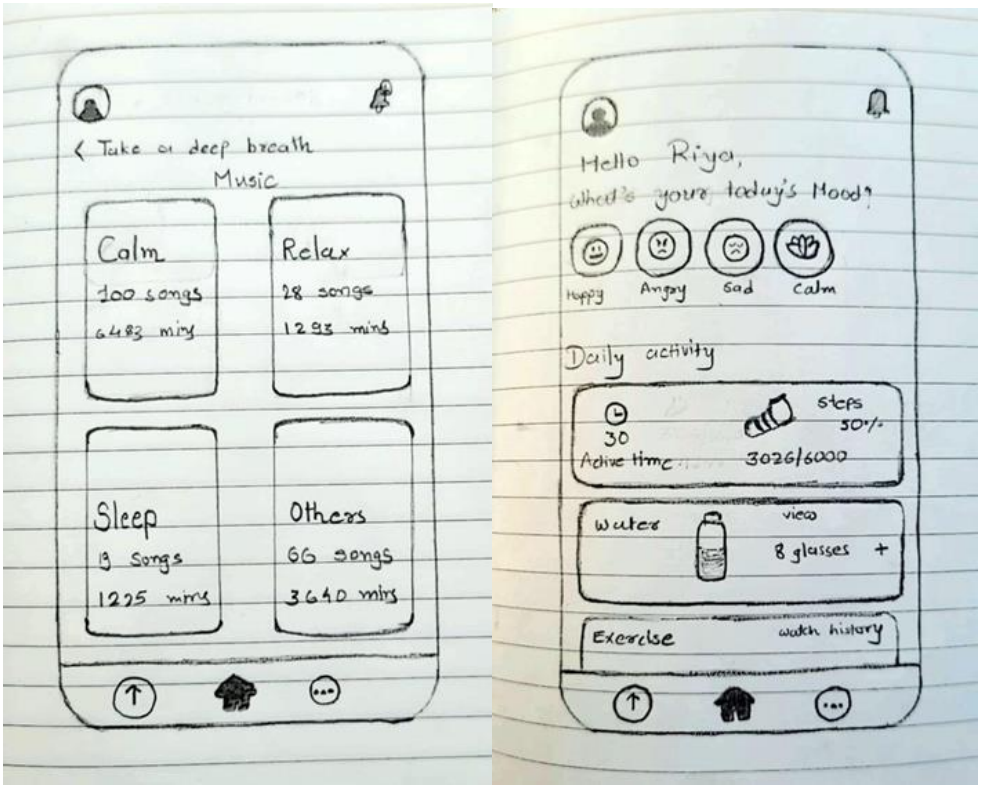
Plugins are a Figma feature that allow designers to extend the tool's functionality by integrating with other tools and services. Plugins can be used to automate repetitive activities, add new functionality, or interface with third-party services like Google Sheets or Unsplash. The Figma community has hundreds of plugins, many of which were written by third-party developers. The Content Reel plugin, which allows designers to easily add dummy text and photos to their designs, and the Trello plugin, which allows designers to sync their Figma designs with Trello cards, are two popular plugins.

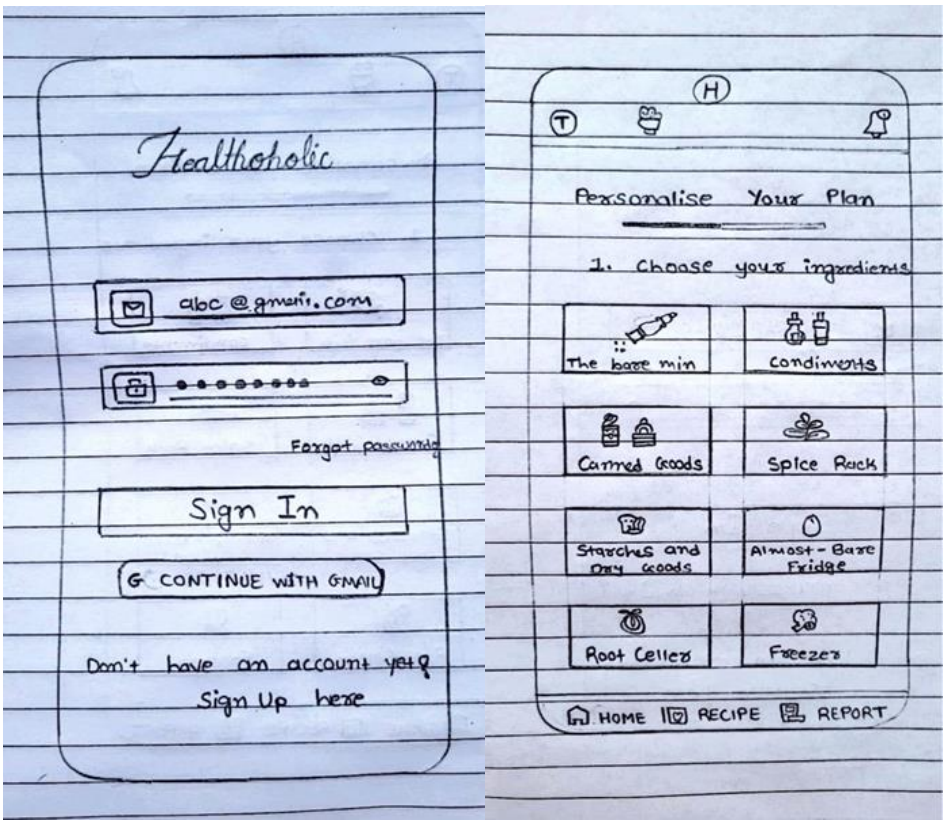
Tools Comparison Table:

Features	**Figma**	**Adobe XD**	**Sketch**
Collaboration	Real-time, Multiple designers can edit	Real-time, Multiple designers can edit	Requires plugins for real time, multi editor collaboration
Prototyping	Yes	Yes	Requires Plugins for that
Operating System	Mac, Windows, Linux	Mac, Windows	Mac
Plugins	Yes	Yes	Yes

Chapter 3: Project Planning and Preparation

Paper-pen designs of the screens:




Healthoholic
abc@gmail.com
Forgot password
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Don't have an account yet?
Sign Up here
H
Personalise Your Plan
1. Choose your ingredients
The base min
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Canned Goods
Spice Rack
Starches and Dry Goods
Almost-Bare Fridge
Root Cellar
Freezer
HOME
RECIPE
REPORT


2:04
53%
Healthy Taco Salad
15 min
This healthy taco salad is the fight of taco night. View More
65g carbs
27g Protien
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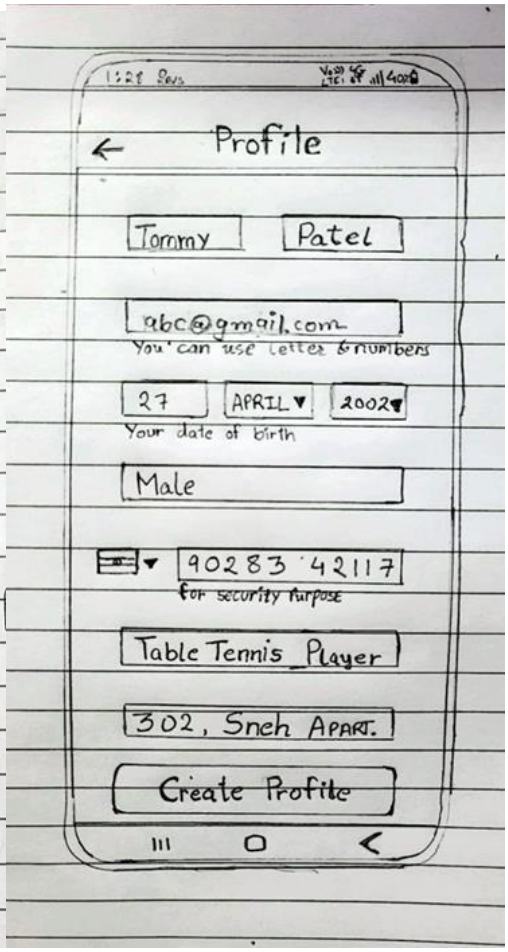
Ingredients
Instructions
Ingredients
Add All to Cart
6 Items
Home
Plans
Formula
More


Profile
Tommy
Patel
abc@gmail.com
You can use letters & numbers
27
APRIL
2002
Your date of birth
Male
90283 42117
For security purpose
Table Tennis Player
302, Sneh Apart.
Create Profile

Persona development, Scenario Description, Use case description.:

Persona 1:

Sarah

"Success is not final, failure is not fatal: it is the courage to continue that count." - Winston Churchill

Age: **26**
Work: **Marketing Manager**
Family: **Single**
Hobbies: **watching movies, going to new restaurants, and hanging out with her friends and family.**

Personality

Introvert	Extrovert
Thinking	Feeling
Sensing	Intuition
Judging	Perceiving

Pain Points

- Sarah has trouble staying consistent with her exercise regimen.
- She frequently feels overloaded and unsure of where to begin due to the wealth of information available on fitness and health.
- She loves to work out alone since she feels awkward working out in front of others.

Goals

- Sarah is uncomfortable exercising in front of people, therefore creating a pleasant training environment at home might be a goal for her.
- To increase her general fitness level, she may set a goal of including multiple sorts of workouts into her routine, such as cardio, weight training, and yoga.
- Another goal for her could be to track her progress with a fitness app, which will allow her to see how far she has come and will keep her encouraged to continue her fitness journey

Behavior

Sarah is a busy working professional who finds it difficult to include exercise in her daily schedule. She often feels bad for not putting her health first, but she has trouble committing to a regular exercise schedule. Short-term goals that are doable for her encourage her, and she responds well to praise.

MOTIVATION

Sarah is 26 years old. She went to the city for college after growing up in a small community. She works for a tech startup and has a degree in marketing. She's a marketing manager. She loves watching movies, going to new restaurants, and hanging out with her friends and family.

Scenario: 1

Sarah opens the app. The app asks you to log in or sign up. After that, the app asks to create a profile. Sarah provides her body composition and sets her goals. The app asks her about her mood today's mood. After completing her profile on the app, Sarah is provided with a variety of workout alternatives including weight training, cardio, and yoga. She selects a 30-minute strength training

routine that she can do at home before going to work. Throughout the workout, the app gives video examples of each exercise and provides concise instructions, and the app also provides a timer to keep her on track. Sarah finds the workout difficult but doable, and she gets a feeling of success when she completes it. After finishing the workout, the app shows the total calories burnt. Following her workout, the app asks her to record her daily food consumption. She logs her breakfast and organizes her meals for the rest of the day using recipes from the app.

Use cases: 1

Steps:

1. Sarah opens the app.
2. The app asks for login or signup to create an account.
3. Sarah creates an account with the help of her email and creates a password
4. Sarah logs in to the app.
5. The app verifies her account.

    5. If the information is invalid

        5.1 The app goes to step 4

6. The app asks for the details to complete the profile and to set a goal for the day.
7. Sarah provides the information and completes the profile.
8. Sarah sets her goal for the day for the daily activities.

9. The app asks to enter about her today's mood and suggests music related to the mood.
10. The app suggests various workouts and exercises.
11. Sarah selects a strength training session of about 30 minutes.
12. The app provides instructions and video guidance about how to perform the exercise.
13. The app provides timers for each of the exercises.
14. The app shows the time to complete the session and the total burned calories after exercise.
15. The app asks to provide information about daily food intake.
16. Sarah fills in the information.
17. The app suggests meals for lunch and dinner.
18. Sarah notes it down and closes the app.

Persona 2:

Maria

"Good health is the foundation of a happy life"

Age: **35**
Work: **Sales Executive**
Family: **Mother of two**

Personality

Introvert	Extrovert
Thinking	Feeling
Sensing	Intuition
Judging	Perceiving

Pain Points

- Due to her hectic work and family duties, Maria finds it difficult to find time for self-care.
- She struggles to keep motivated and regular with her exercise and eating program, especially when she is worried or weary.
- She is also overwhelmed by the volume of health information available online and struggles to discover reputable sources.

Goals

- Maria's key objective is to attain a healthy work-life balance while also maintaining her physical and emotional well-being.
- She wants to reduce her stress levels and enhance her sleep quality in order to have more energy and concentrate during the day.
- She also wishes to shed weight and tone her physique in order to feel more confident and comfortable in her own flesh.

Behavior

Maria is a disciplined and organized person who loves to prepare her day ahead of time. She likes working out at the gym and taking long walks in the park. She is constantly on the lookout for new methods to improve her health and wellness, such as trying new diets, supplements, or workout plans. She is technologically aware and uses her smartphone to keep connected and handle her daily duties.

MOTIVATION

Maria's primary objective is to be a good role model for her children and to encourage them to adopt healthy habits. She also wants to feel good about herself and attain her fitness objectives. She is inspired by the sense of success she gets from meeting her goals, as well as the favorable influence her healthy lifestyle has on her physical and emotional health.

Scenario 2:

To manage her workout schedule and enhance her general health, Maria uses this healthcare app. She opens the app on her smartphone and logs in to her account. Her daily steps, calories burnt, and sleep length is displayed on the dashboard along with some inspirational quotes and advice. She observes that she fell short of yesterday's step target. Maria logs her daily workout under the "Fitness Tracker" page. She enters the type of exercise, the sets, and the reps after choosing "Strength Training." Her weekly progress is updated by the app once the total time and calories burned have been calculated. Maria scans down the app and finds various exercises and fitness challenges that look interesting. After clicking "Yoga Challenge," she is presented with a list of yoga poses along with descriptions and videos. She arranges the challenge for tomorrow morning and includes it in her workout program. Maria chooses a guided meditation session under the "Meditation" category before she exits the app. She puts on her headphones and picks a 10-minute session. She is guided through the meditation by a soothing voice and relaxing music from the app.

Use case: 2

Steps:

1. Maria opens the app.
2. The app asks for the username and password.
3. Maria logs in to her account.
4. The app verifies her account.

4 If the information is wrong

4.1 The app sends the user to step 2

5. The app greets with a message.
6. The app shows the history of her daily activity such as her daily steps, calories burnt and sleep length, etc.
7. Maria records her daily workout under the “Fitness Tracker” page.
8. The app provides different types of training options, exercises, and challenges.
9. The app asks to choose the type of workout, set, and reps.
10. Maria chooses accordingly.
11. Maria completes the training and chooses a challenge related to YOGA.
12. The app provides different options for Yoga poses with video guidance.
13. Maria schedules the challenge for the next morning.
14. The app sets up a reminder for the next morning by showing a confirmation message.

    14. If Maria confirms

        14.1 The app schedules the session

    14. If Maria doesn’t confirm / says no

        14.2 The app goes to step 12

15. Maria, then, clicks on Meditation.
16. The app provides different kinds of music for relaxation and meditation.
17. Maria chooses a 10-minute meditation session.
18. Maria completes the meditation and closes the app.

Persona 3:

John Smith

"Fitness is not a destination, it's a journey!"

Age: **30**
Work: **Working Professional**
Family: **Married**
Hobbies: **A runner and hiker who appreciates being active outside**

Personality

Introvert	Extrovert
Thinking	Feeling
Sensing	Intuition
Judging	Perceiving

Pain Points

- John sometimes has difficulty discovering new and exciting vegetarian meals that meet his dietary requirements.
- During hectic moments at work, he also finds it difficult to stay inspired and devoted to his exercise goals.

Goals

- John's major objective is to preserve his best health and fitness.
- He wants to maintain his physical fitness so that he may continue to pursue his hobbies and interests without restriction.
- He also hopes to inspire people to embrace healthy habits and make great life choices.

Behavior

- John's commitment to health and fitness is strict and constant.
- He follows a stringent fitness regimen and eats a well-balanced diet.
- He is always seeking for new methods to enhance his health and appreciates being up-to-date with the latest studies on health and nutrition.

MOTIVATION

John is driven by the prospect of enjoying a long and healthy life. He feels that by taking care of his body and mind, he can attain his objectives and dreams.

John is also inspired by the great influence he may have on others by sharing his health and wellness knowledge and experiences.

Scenario 3:

John has made the decision to use a diet care app to support him in continuing to live a healthy lifestyle. He downloads the app, registers, and enters personal information about his diet and body composition. Through this app, he can simply find recipes, monitor his dietary intake and water consumption, and schedule workout reminders. John decides to test out the app's recipe generator feature because he struggles to discover new and interesting meals that fit his dietary restrictions. The application offers numerous recipes for breakfast, lunch, and dinner once the user enters his chosen ingredients and dietary limitations. John uses the app's motivational tool to set reminders and notifications to keep him on track with his fitness objectives because he finds it difficult to stay motivated during busy work periods. In the app's community section, he may interact with other users and share his progress while receiving support from other like-minded people.

Use case: 3

Steps:

1. John downloads the app
2. The app request to create a new account
3. John creates a new account by creating a new username and password
4. The app asks for his personal information about diet and body composition such as height and weight and water intake and sets goals for them.
5. John clicks on the button to generate a recipe.
6. The app asks for the ingredients to include in the meal and asks to fill in the dietary limitations.
7. John provides the list of ingredients according to his restrictions.
8. The app suggests some recipes according to the provided list of ingredients and also shows.
9. John sets up the reminder for the water consumption and daily home workout session.

10. John searches for the nearest gym in his area.
11. The app asks for location access permission.

    11. John provides permission to access the location

        11.1 The app goes to step 12

    11. If John does not provides the permission

        11.2 The app goes to step 11

12. The app suggests nearest gyms and provides the contact numbers of the gyms.

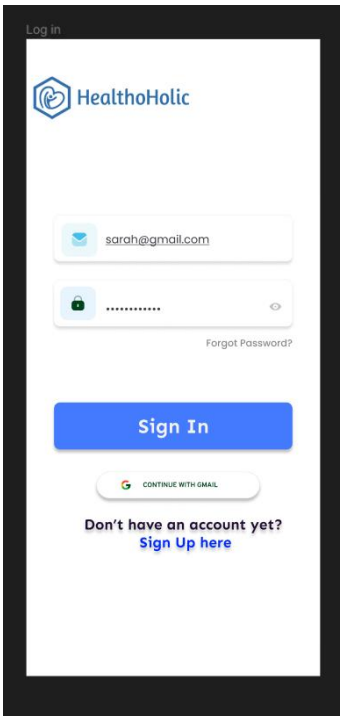
Chapter 4: Project Features

1. Sign-In Feature:

Functionality:

The process of authenticating a user by confirming their identity through the use of credentials like a username and password is known as the sign-in function of a login page for a mobile application. The primary function is to secure access to the application's capabilities and content for only authorized users.

Photos of the implementation:



Design principles/universal usability principles utilized or implemented:

Some of the design principles and universal usability principles that are typically utilized and implemented in the sign-in feature of a login page for a mobile application include:

- Consistency: The design is consistent throughout the application, including the SignIn feature, to help users understand how to navigate and use the application.
- Cater for Universal Usability: The design is simple and straightforward, with clear and concise instructions for users to follow.
- Visibility: The Sign In feature is easy to find and access, with clear labeling and placement on the screen.

Details of Interaction Style:

Form-filling is a type of user interface interaction where users must fill out fields in a form in order to submit data or carry out an activity.

The form-fill-in interaction style would entail presenting the user with a login form that contains fields for entering their username or email and password in the context of a sign-in function for a fitness mobile application. Before being allowed to log into the program, the user would have to complete both fields.

The form is built with clear labels and instructions for each field and adequate input validation to ensure the user submits accurate data to improve the user experience. To further enhance usability, features such as auto-filling of previously submitted data and the choice of showing or hiding the password can also be added.

Hierarchical Task Analysis

Task1: Open the mobile application

Subtask 1.1. The user clicks on the application icon to launch it

Subtask 1.2. The user Waits for the application to load

Task 2: Locate the Sign In button on the login page

Subtask 2.1. Users look for the "Sign In" or "Log In" button on the screen

Subtask 2.2. If necessary, the user scrolls downnavigatesgate to a different screen to find the button

Task3: Enter your username in the designated field

Subtask 3.1. The app asks to enter the "Username" or "Email" field on the screen

Subtask 3.2. The user taps on the field to bring up the keyboard

Subtask 3.3. User types in username or email address using the keyboard

Task4: Enter your password in the designated field

Subtask 4.1. The app asks to enter a field labeled "Password" on the screen

Subtask 4.2. The user taps on the field to bring up the keyboard

Subtask 4.3. User types in your password using the keyboard

Subtask 4.4. The app ensures that the password is hidden or masked for security purposes.

Task 5: Click the Sign In button to submit your credentials

Subtask 5.1. The user locates the "Sign In" or "Log In" button on the screen

Subtask 5.2. The user taps on the button to submit credentials

Subtask 5.3. The app verifies credentials and grant access

Task 6: If authentication is unsuccessful, you will receive an error message and have the option to retry or reset your password.

Subtask 6.1. The user receives an error message indicating that the credentials are incorrect

Subtask 6.2. The app gives the option to retry entering the credentials or reset the password

Subtask 6.3. If the option to reset the password is chosen by the user, the app navigates to the password reset screen and follows the process.

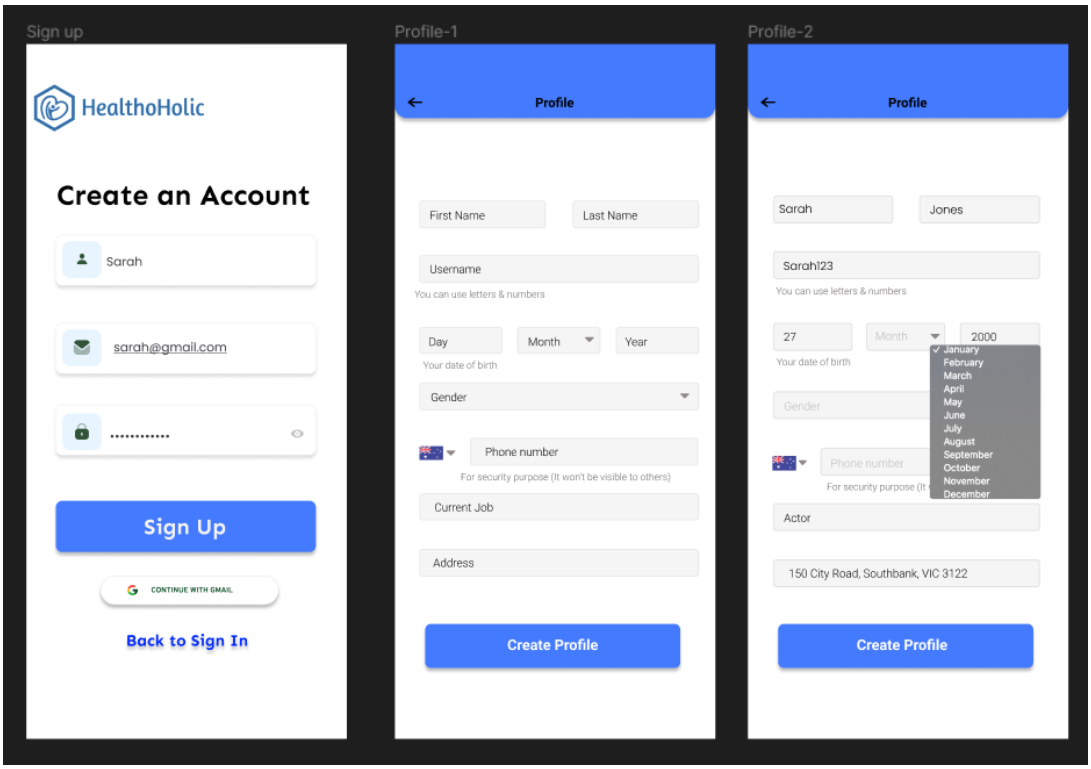
2. Sign-Up Feature:

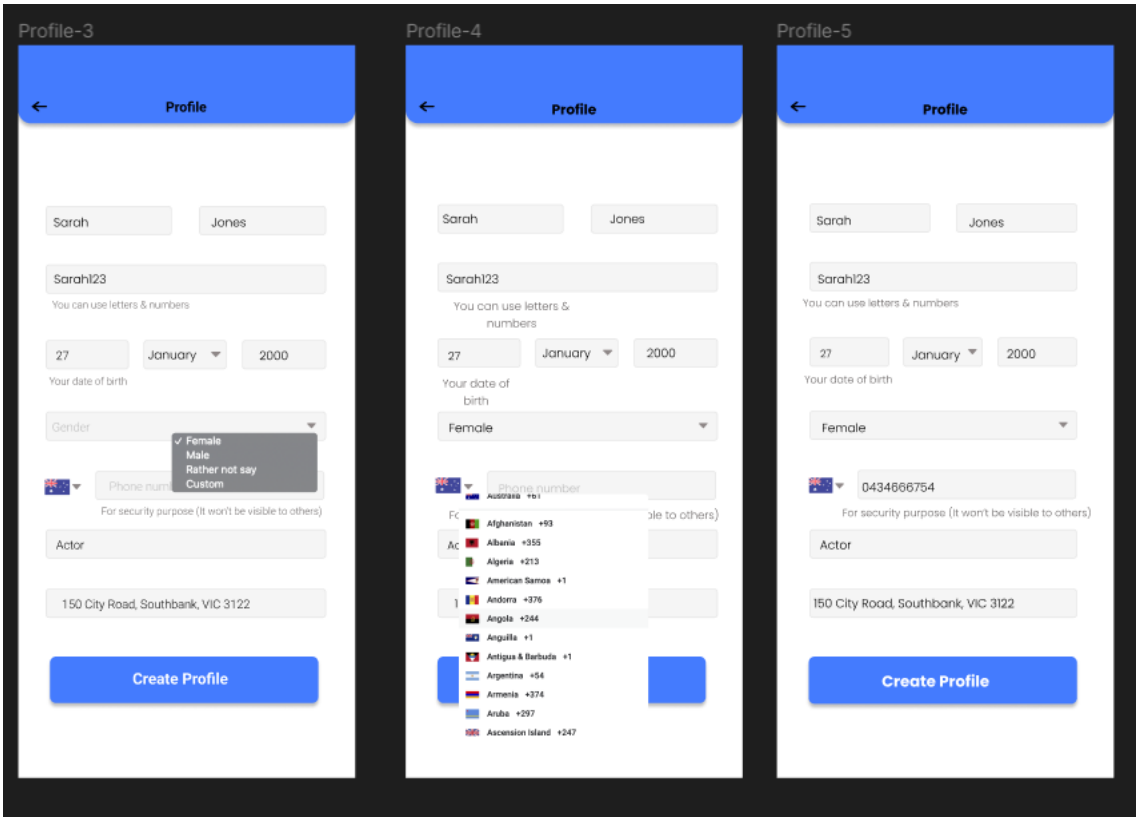
Functionality:

The Sign Up feature of a Login Page in a mobile application serves the purpose of allowing new users to create an account and access the app's features. The functionality of this feature includes the following:

- Providing a form for users to input their personal information, such as name, email address, and password.
- Validating the user's inputs to ensure they meet the app's requirements for a strong and secure password.
- Allowing users to edit their account information and change their password if needed.

Photos of the implementation:





Design principles/universal usability principles utilized or implemented:

To ensure a seamless user experience, the Sign Up feature should be designed with the following principles in mind:

- Visibility: The Sign Up feature should be easy to find and clearly labeled, so users can quickly identify where to create an account.

- Feedback: Users should receive clear feedback on the status of their account creation process, such as when their email address has been verified or when their account has been activated.

- Error Prevention: The Sign Up feature should include input validation to prevent users from creating weak or insecure passwords and to ensure that the email address they entered is valid and associated with the user.

- Flexibility and efficiency of use: The Sign Up feature should be designed to allow users to easily create an account and access the app's features in as few steps as possible without sacrificing security.

Interaction styles:

The Sign Up feature can be implemented using a variety of interaction styles, including:

- Form-based interaction: This style involves providing users with a form to fill out their personal information, which is then processed by the app's backend to create their account.

Hierarchical Task Analysis:

A hierarchical task analysis (HTA) can be used to break down the signup feature into smaller, more manageable tasks, as follows:

Task1: Open the Login Page

Subtask 1.1: User Launch the mobile application

Subtask 1.2: User Navigate to the Login Page

Task2: Click on the Sign Up button

Subtask 2.1: The app shows the Sign Up button

Subtask 2.2: User Taps on the Sign Up button

Task3: Input personal information into the Sign Up form (name, email address, password)

Subtask 3.1 App asks to enter the name, user enters the name into the name field

Subtask 3.2: The app asks for an email address, the user enter an email address into the email field

Subtask 3.3 App asks to enter the appropriate password, user enters a password into the password field

Task4: Validate the password to ensure it meets the app's requirements for strength and security

Subtask 4.1: The app verifies that the password meets the app's requirements for length, complexity, and special characters

Subtask 4.2: The app provides feedback to the user if the password does not meet the requirements

Task5: Verify the email address by clicking on the verification link sent to the user's inbox

Subtask 5.1: Open the user's email inbox

Subtask 5.2: User locates the verification email

Subtask 5.3: The user clicks on the verification link in the email

Subtask 5.4: The user confirms that the account has been successfully verified

Task6: Access the app's features by logging in with the newly created account

Subtask 6.1: User navigates to the Login Page

Subtask 6.2: Enter the user's email address and password

Subtask 6.3: User clicks on the Login button

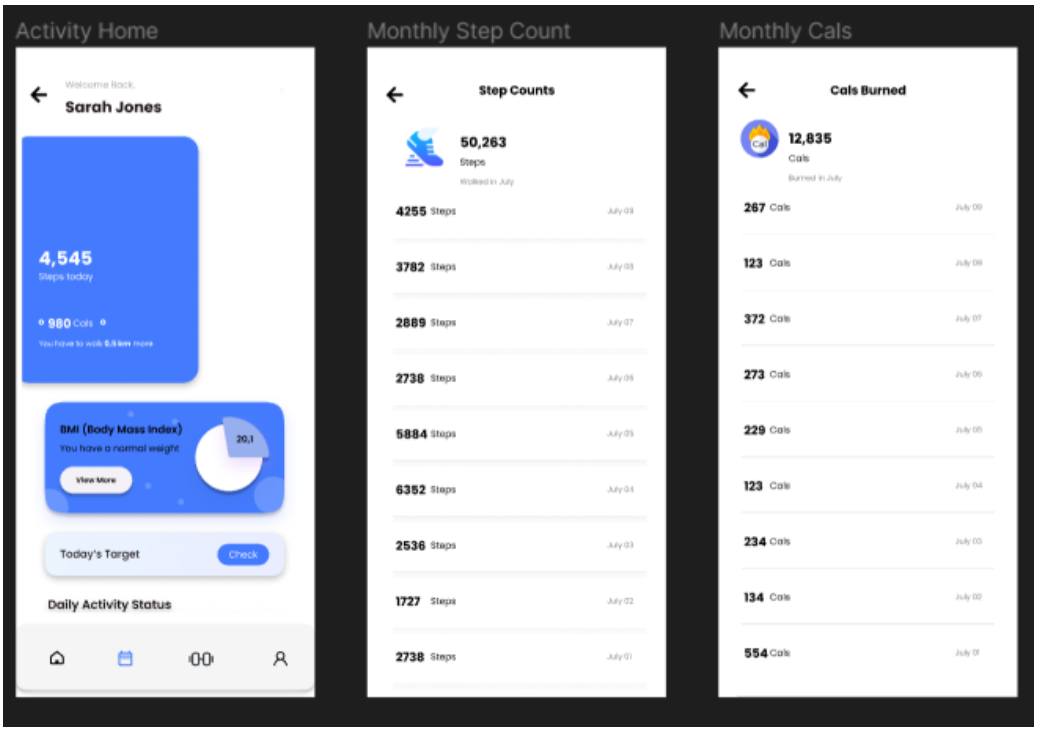
Subtask 6.4: The app confirms that the user has successfully logged in

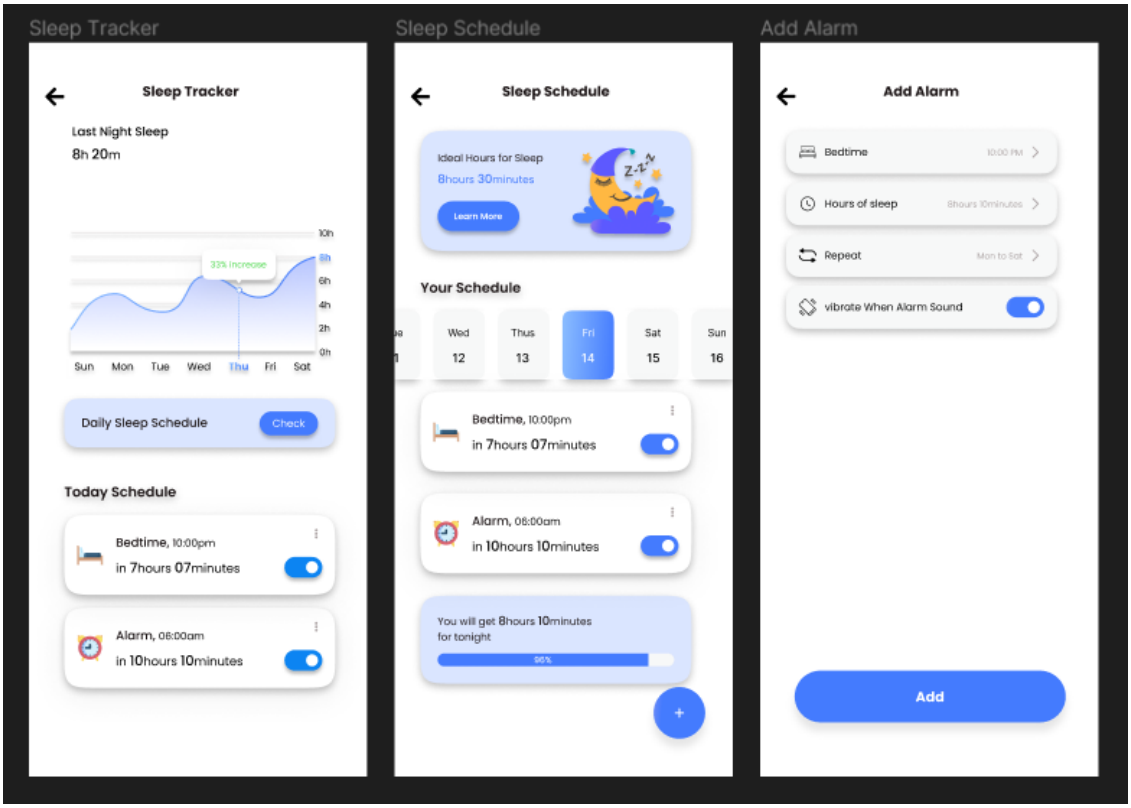
3. Activity Tracking Feature:

Functionality:

Utilizing their smartphone or wearable device, users may track their daily physical activity, including the number of steps they take, the distance they travel, and the number of calories they burn.

Photos of the implementation:




Sleep Tracker
Sleep Tracker
Last Night Sleep
8h 20m
33% Increase
10h
8h
6h
4h
2h
0h
Sun Mon Tue Wed Thu Fri Sat
Daily Sleep Schedule
Check
Today Schedule
Bedtime, 10:00pm
in 7hours 07minutes
Alarm, 08:00am
in 10hours 10minutes
Sleep Schedule
Sleep Schedule
Ideal Hours for Sleep
8hours 30minutes
Learn More
Your Schedule
Wed 12
Thus 13
Fri 14
Sat 15
Sun 16
Bedtime, 10:00pm
in 7hours 07minutes
Alarm, 08:00am
in 10hours 10minutes
You will get 8hours 10minutes
for tonight
96%
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Add Alarm
Bedtime
10:00 PM
Hours of sleep
8hours 10minutes
Repeat
Mon to Sat
vibrate When Alarm Sound
Add


Water Intake
Water Intake
Water
74%
of 5000ml
3700/5000ml
Real time updates
6am - 8am
600ml
9am - 11am
500ml
11am - 2pm
1000ml
2pm - 4pm
700ml
4pm - now
900ml
Add water intake
add in ml

Design principles/universal usability principles utilized or implemented:

Visibility: Because users can quickly access their activity data on the app, this feature adheres to the concept of visibility.

User control: Users have the freedom and control to set their own exercise objectives and monitor their progress in reaching them.

Interaction styles:

The activity tracking feature's interaction design may combine direct manipulation with natural language. To examine their activity statistics, users can actively engage with the app's UI by tapping on buttons, swiping screens, or scrolling through menus. Goal-setting can also be done via natural language instructions, like "establish a goal of walking 10,000 steps each day."

Hierarchical Task Analysis:

Task1: View Activity Status

Subtask 1.1: User opens the activity tracking feature and scrolls to the monthly Activity Tracking button on the app.

Subtask 1.2: The user chooses the card view type, and a user clicks on either Monthly Step Count or Monthly Calorie Burn button.

Subtask 1.3: The user clicks on the Monthly Step Count button.

Subtask 1.4: The app opens a new page showing monthly step count data.

Subtask 1.5: The user clicks on the Monthly Calorie Burn button.

Subtask 1.6: The app opens a new page showing monthly calorie burn data.

Task2: Track daily sleep

Subtask 2.1: The user clicks on the sleep button on the activity page.

Subtask 2.2: The app shows the page of the sleep tracker where daily sleep is tracked using a chart.

Task3: Schedule daily sleep

Subtask 3.1: The user clicks on the check button to check the sleep schedule.

Subtask 3.2: The user can check the sleep schedule/ sleep time in hours and minutes day-wise and can see the alarm and reminder to sleep that have been scheduled by the user.

Task4: Add the alarms and bed reminder

Subtask 4.1: The user clicks on the plus sign on the sleep schedule page

Subtask 4.2: The app goes to the add alarm page.

Subtask 4.3: The user adds the bedtime reminder and alarm to wake up.

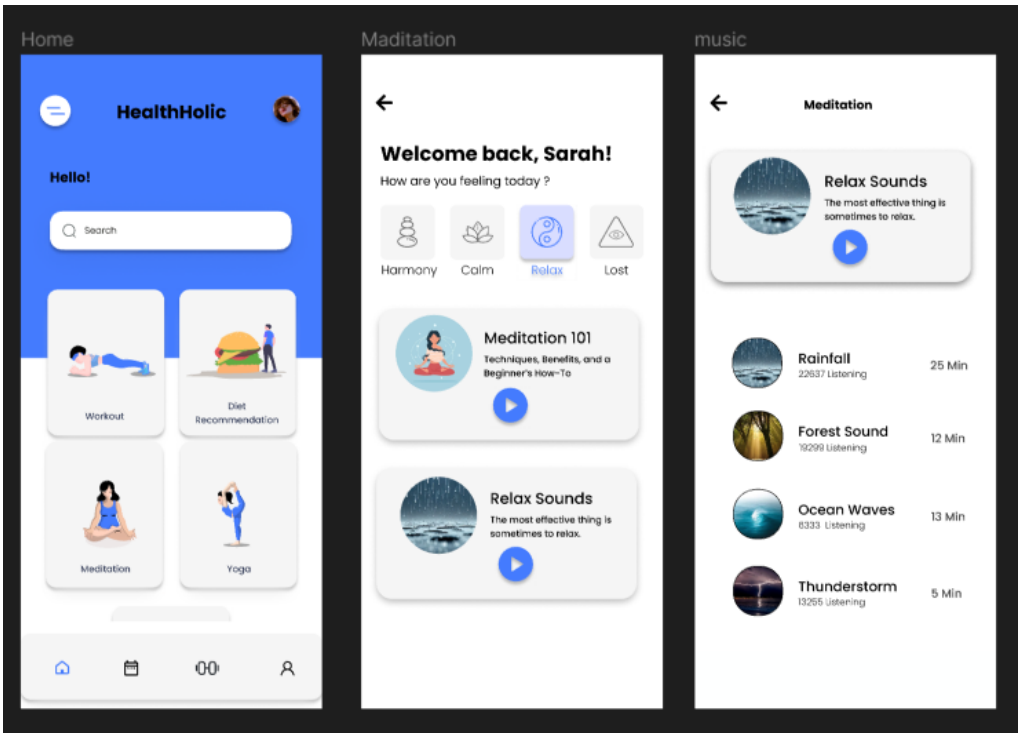
Subtask 4.4: It becomes visible on the sleep schedule page.

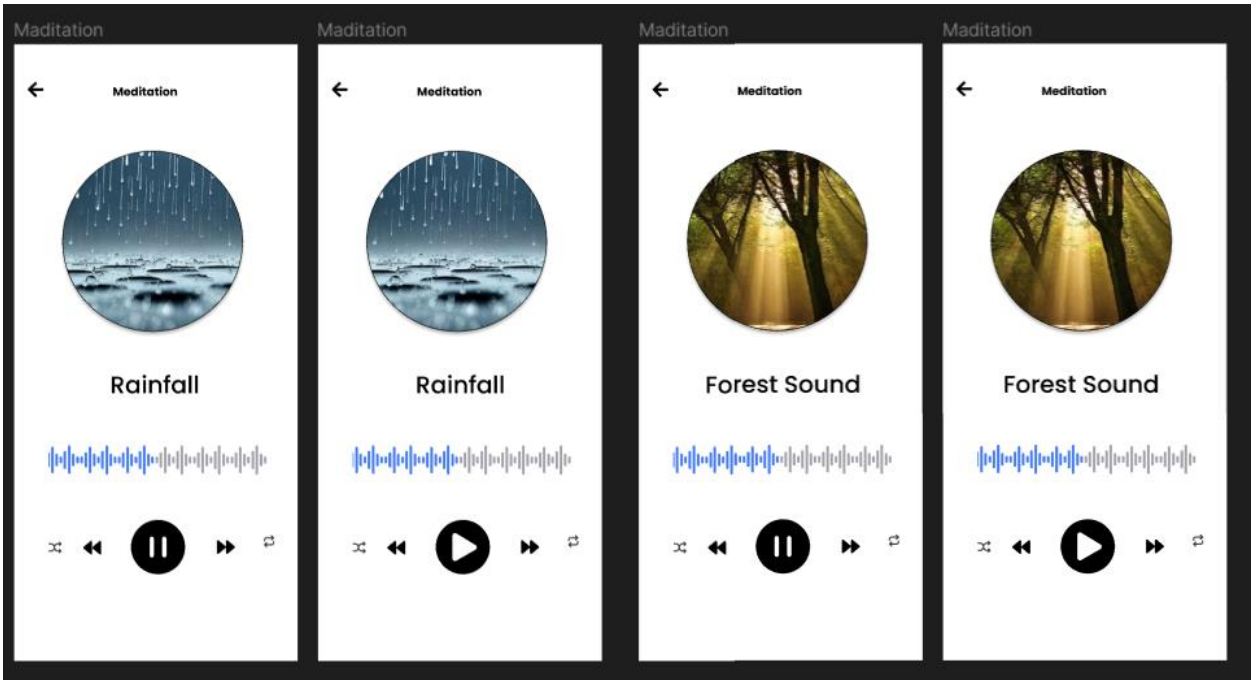
4. Meditation Feature:

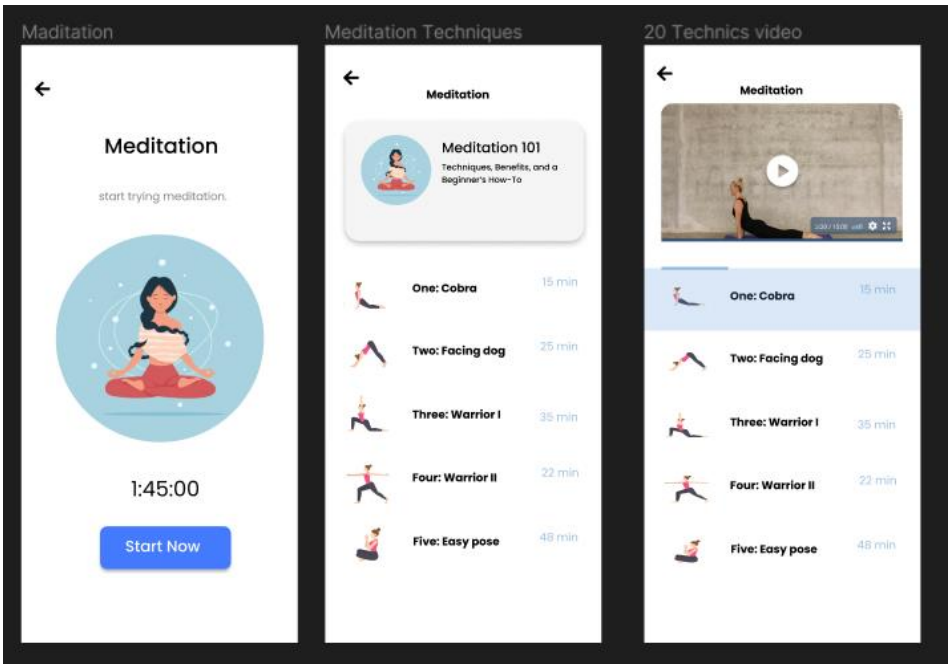
Functionality:

The fitness app's Meditation feature seeks to give users a guided meditation experience to help them relax, focus better, and cope with stress.

Photos of the implementation:







Design principle Interaction styles/ universal usability principles utilized or implemented:

- Learnability: The app has to give new users clear instructions and directions so they can begin using the guided meditations.

- Direct Manipulation: The Meditation function could make use of a touch-based interaction style, with a simple tap and swipe movements to navigate between different programs, select themes, and begin and end meditation sessions. If voice instructions are implemented in the future, it may be possible to start or pause the meditation session without touching the device.

Hierarchical Task Analysis:

Goal: access sessions for meditation and mindfulness

Task 1: Open the Fitness App

Subtasks 1.1: Locate and tap the Fitness App icon on the home screen of the smartphone.

Wait for the app to load.

Task 2: Navigate to the Meditation Feature

Subtasks 2.1: From the app's home screen, locate and tap the "Meditation" button. Wait for the Meditation feature to load.

Task 3: Select a Guided Meditation session

Subtasks 3.1: The app shows the options of meditation and music for meditation.

Subtask 3.2: Browse through the available sessions based on duration.

Subtask 3.3: Tap on the preferred session. Wait for the session to load. And complete the session.

Task 4: End the Guided Meditation Session

Subtasks 4.1: Wait for the session to end. Tap the "Back" button to exit the session. Return to the Meditation feature's main screen.

Task 5: Select how you feel and play music.

Subtasks 5.1: Read any instructions or information displayed on the screen. Adjust the volume, if needed.

Subtasks: Tap the "Play" button to begin the music session.

Task 6: End the guided meditation music session.

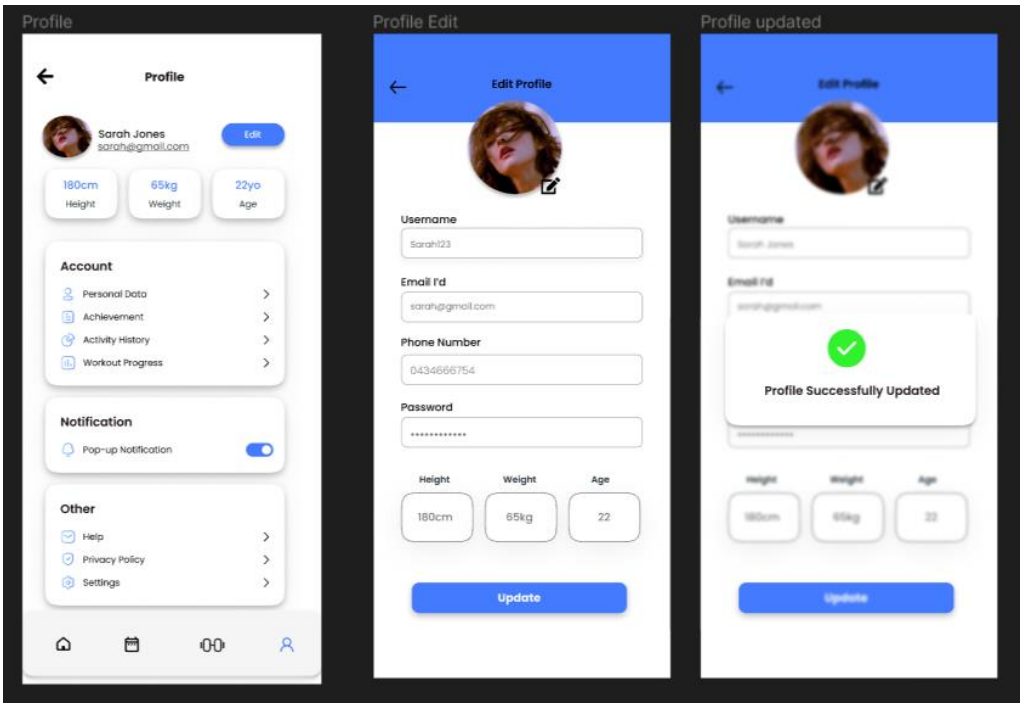
Subtasks 6.1: Wait for the music to end. Tap the “Back” button to exit the music player. Return to Meditation. feature’s main screen. Again, tap the “Back” button to exit the Meditation feature. Return to the Homepage of the app.

5. Profile Feature:

Functionality:

enables users to alter their name, age, height, weight, fitness objectives, and preferred workouts in their profiles.

Photos of the implementation:



Design principles/universal usability principles utilized or implemented:

- Visibility: The user interface should make it simple for users to view and change their profile information.
- Error prevention and recovery: To avoid user errors when updating their profile information, the app should offer clear instructions and feedback.

Interaction styles:

Users of the edit profile feature can enter their data using text fields and dropdown menus to enter their age, height, weight, password, or username in a form-based interaction style.

Hierarchical Task Analysis:

Task1: Edit profile

Subtask 1.1: The user clicks on the edit option on the profile page.

Subtask 1.2: the application goes to the edit profile page.

Task2: Edit/view the information of the user

Subtask 2.1: The application shows the current information of the user such as name, email, height, weight, and age.

Subtask 2.2: The user clicks on the information that he or she wants to change.

Task 3: Edit name, email, and phone number.

Subtask 3.1: The application shows the current name, email, and phone number registered to that email id which is visible on the profile.

Subtask 3.2: The user re-enters the name, email id, and phone number that he or she wants to change.

Task4: Edit Height

Subtask 4.1: The application shows the current height visible on the profile.

Subtask 4.2: The user re-enters the height.

Task5: Edit weight

Subtask 5.1: The application shows the current weight visible on the profile.

Subtask 5.2: The user re-enters the weight.

Task6: Edit Age

Subtask 6.1: The application shows the current Agevisible on the profile.

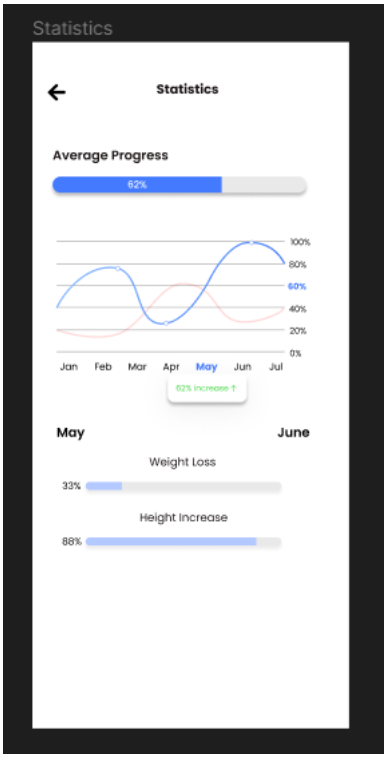
Subtask 6.2: The user re-enters the Age.

6. Progress Report Feature:

Functionality:

The progress report feature in a fitness mobile application is intended to provide users with an overview of their fitness progress, including their weight, body measurements, and workout history. This feature allows users to track their progress over time and identify areas where they need to improve.

Photos of the implementation:



Design Principles/Universal Usability Principles utilized/implemented:

Some of the design principles that could be implemented in the progress report feature include:

- Consistency: The progress report should be consistent with the overall design of the fitness mobile application.
- Simplicity: The progress report should be simple and easy to use, with a clear layout that allows users to quickly understand their progress.
- Feedback: The progress report should provide feedback to the user, highlighting areas where they are making progress and areas where they need to improve.
- Visibility: The progress report should be prominently displayed in the fitness mobile application, making it easy for users to access and review their progress.

Details of Interaction Style:

The interaction style for the progress report feature could include:

Input: Users would input their weight, body measurements, and workout history into the fitness mobile application.

Output: The fitness mobile application would provide users with a progress report, including graphs and charts that visually represent their progress over time.

Here the chart has also been used to show the progress statistics.

Hierarchical Task Analysis:

Task 1: Navigate to the progress report feature within the fitness mobile application:

Subtask 1.1 Open the fitness mobile application.

Subtask 1.2 The user goes to the profile page.

Subtask 1.3 The user clicks on the progress report feature.

Task 2: Input weight, body measurements, and workout history:

Subtask 2.1: The app asks for new details of height and weight in the edit profile option.

Subtask 2.2: The user enters the new data and updates the changes.

Subtask 2.3: The app shows the average progress report in percentage.

Subtask 2.4: The app shows the improvement in height, weight, and mass.

Task 3: Analyze the progress report to identify areas where improvements can be made:

Subtask 3.1 The user looks for areas where progress has not been made or has slowed down.

Subtask 3.2 The user Identifies patterns or trends in progress.

Subtask 3.3 The user determines areas where improvement can be made, such as adjusting workout routine or diet.

Task 4: Return to progress report feature to track progress over time:

Subtask 4.1 Exit out of progress report feature.

Subtask 4.2 Return to the main menu or home screen of the fitness mobile application.

Subtask 4.3 Go to the profile and look for the progress report feature.

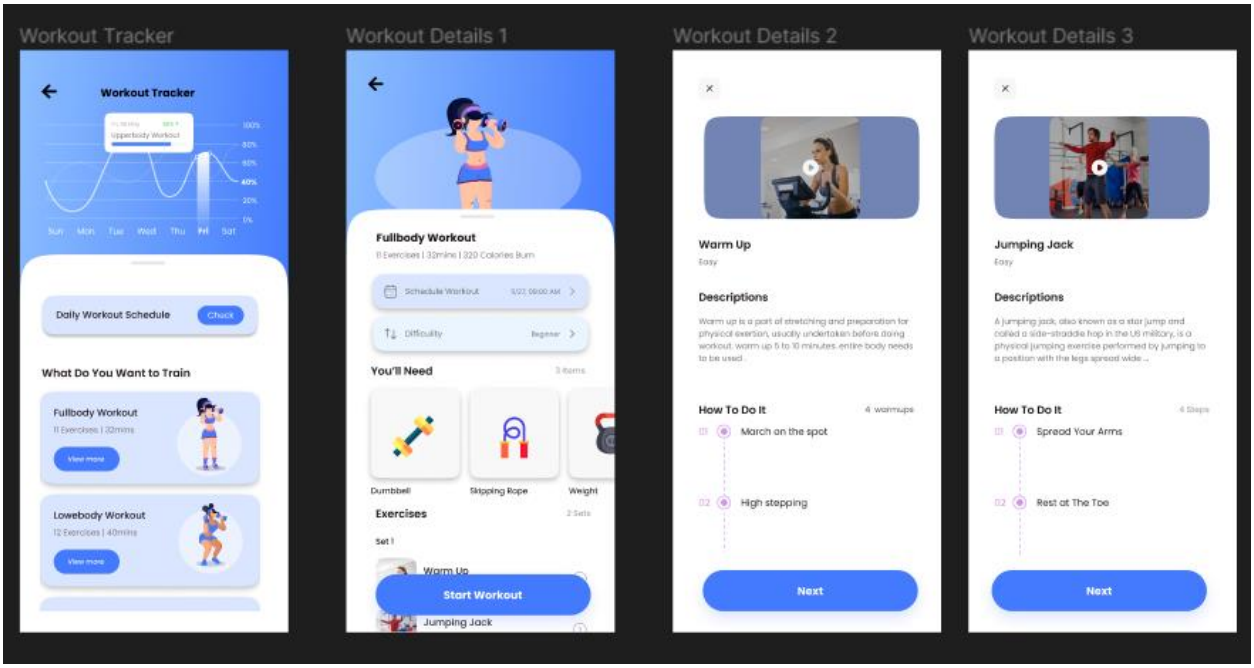
Subtask 4.4 Click on the progress report feature to view progress over time.

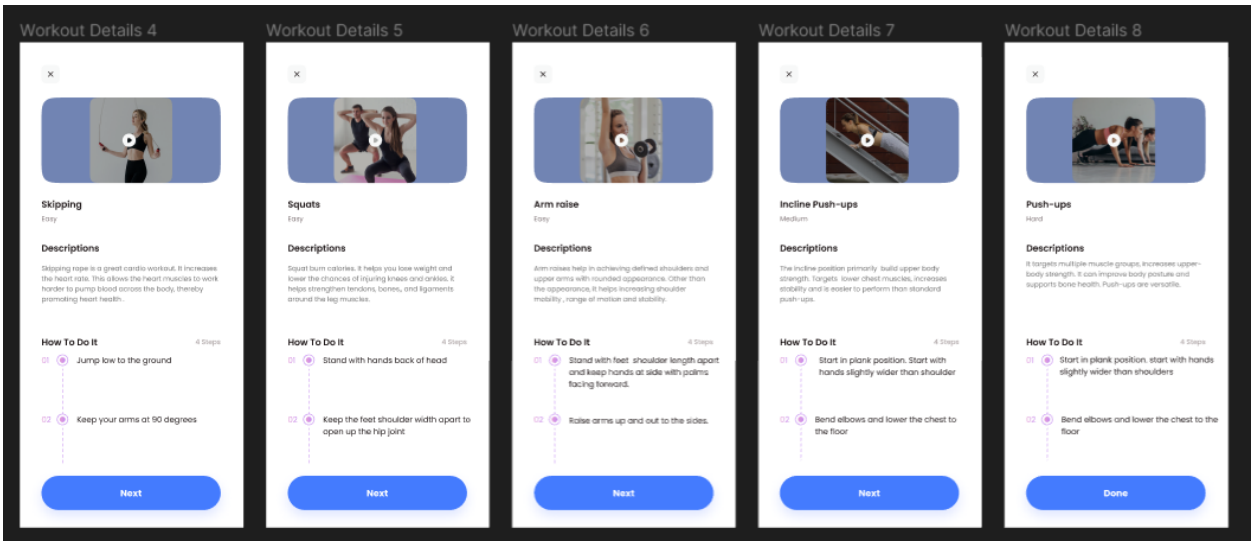
7. Workout Scheduling

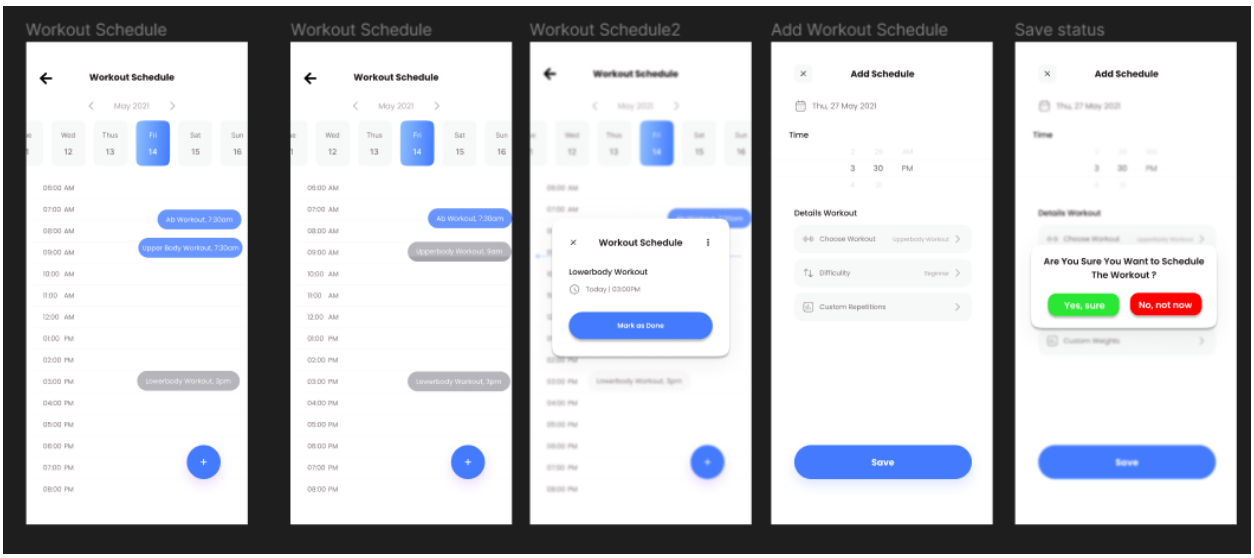
Functionality:

The app offers users a customizable workout plan so they can use it to monitor their progress. The Workout function in the application seeks to help users accomplish their fitness objectives. The feature includes workout exercise steps, workout exercise explanations, video explanations of the workout, workout exercise progress in percentages, and fitness schedule setup.

Photos of the implementation:







Design principles/universal usability principles utilized or implemented:

Prevent Errors: The application incorporates the features that prevent errors from occurring, such as providing detailed instructions on how to do each workout exercise correctly and video explanation of the workout as well.

Consistency: The feature's structure and design is the same throughout the application to make it simple for users to browse and comprehend. There’s consistency in the text, color, icons overall in the layout.

Visibility: All feature components, including workout success %, exercise steps, and videos, should be clear to users and simple to reach.

Details of Interaction Style:

Direct Manipulation: Through the graphical representation users can get overall updates on their workout progress and calories burnt through the workout.

Menu Selection: The app provides different options for workouts such as ab workout, upper body workout, full body workout, and so on to the users in the form of a menu. User can easily click on one which he or she wants to choose.

Hierarchical Task Analysis:

Goal: Perform a Full Body workout

Task1: Select the Workout feature from the options

- Subtask 1.1: The application provides four options
- Subtask 1.2: The user selects the Workout option from them

Task2: Choose the type

- Subtask 2.1: The application provides a few options for the types of workout
- Subtask 2.2: User selects full body workout option from the provided options

Task3: Understanding the necessity of the workout

- Subtask 3.1: The application gives the list of things that will be needed to perform the workout

Task4: Understanding the workout

- Subtask 4.1: The application provides the details, steps, and video of the full-body workout exercises one by one

Task5: Scheduling workout

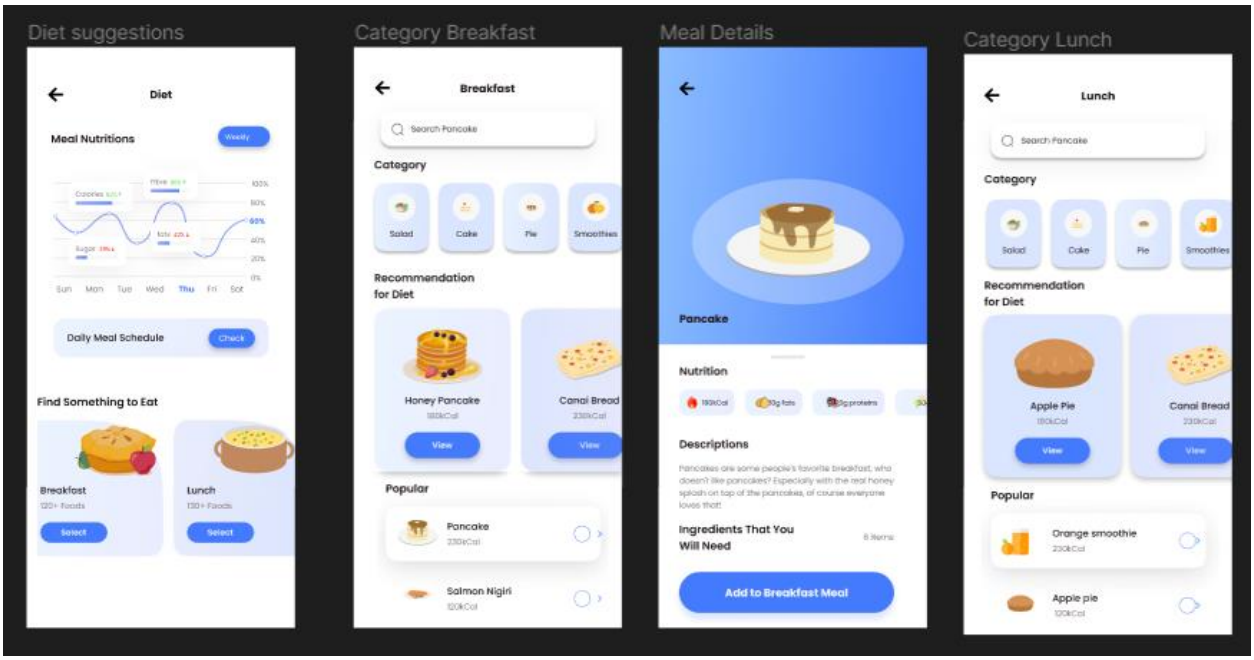
- Subtask 4.1: The user selects the time and date to schedule the workout
- Subtask 4.2: The application schedules the workout accordingly

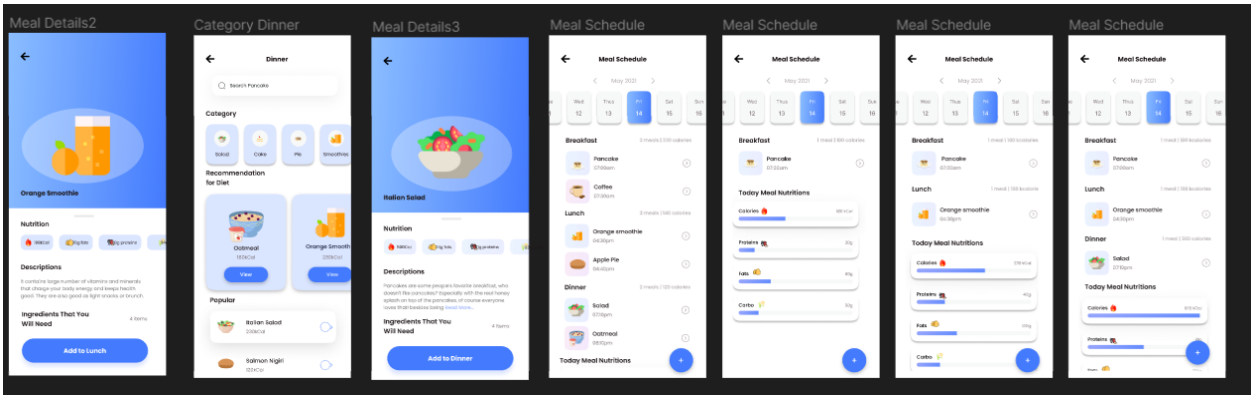
8. Diet Suggestion

Functionality:

The feature of the application's "Diet Recommendation" seeks to assist users in organizing their meals by offering proposals for breakfast, lunch, and supper along with information on the ingredients, recipe, and nutrition. The application then computes the overall nutrition for the day after users add these choices to a summary of the meals they intend to consume for the day. A weekly summary that displays the nutrition amounts for the previous week is also included in the feature.

Photos of the implementation:





Design principles/universal usability principles utilized or implemented:

Consistency: There's consistency in the layout of the feature throughout the application. There's consistency in the text and the color theme of the feature.

Details of Interaction Style:

Menu Selection: The app provides three options for the meal: Breakfast, Lunch, and Dinner to the users in the form of a menu. User can easily click on one which he or she wants to choose. Then the application provides various options for the meal for each of the options and the categories.

Hierarchical Task Analysis:

Goal: To find out the amount of nutrition intake of the Day

Task1: Select Diet Recommendation feature from the options

Subtask 1.1: The application provides four options

Subtask 1.2: User selects Diet recommendations option

Task2: Choosing the Meal

Subtask 2.1: The application provides three meal options: breakfast, lunch, and dinner

Subtask 2.2: User selects Breakfast

Task3: Selecting the meal for breakfast

Subtask 3.1: The application provides various meals

Subtask 3.2: The user selects a meal that he or she wants to eat for breakfast

Subtask 3.3: The application provides the ingredient list, nutritional information, and the recipe for breakfast.

Subtask 3.4: The user adds it to the meal list

Task4: Selecting the meal for lunch

Subtask 4.1: The application provides various meals

Subtask 4.2: The user selects a meal that he or she wants to eat at lunch

Subtask 4.3: The application provides the ingredient list, nutritional information, and the recipe for lunch.

Subtask 4.4: The user adds it to the meal list

Task5: Selecting the meal for dinner

Subtask 5.1: The application provides various meals

Subtask 5.2: The user selects a meal that he or she wants to eat for dinner

Subtask 5.3: The application provides the ingredient list, nutritional information, and t the recipe for dinner

Subtask 5.4: The user adds it to the meal list

Task6: knowing about the total nutrition of the day

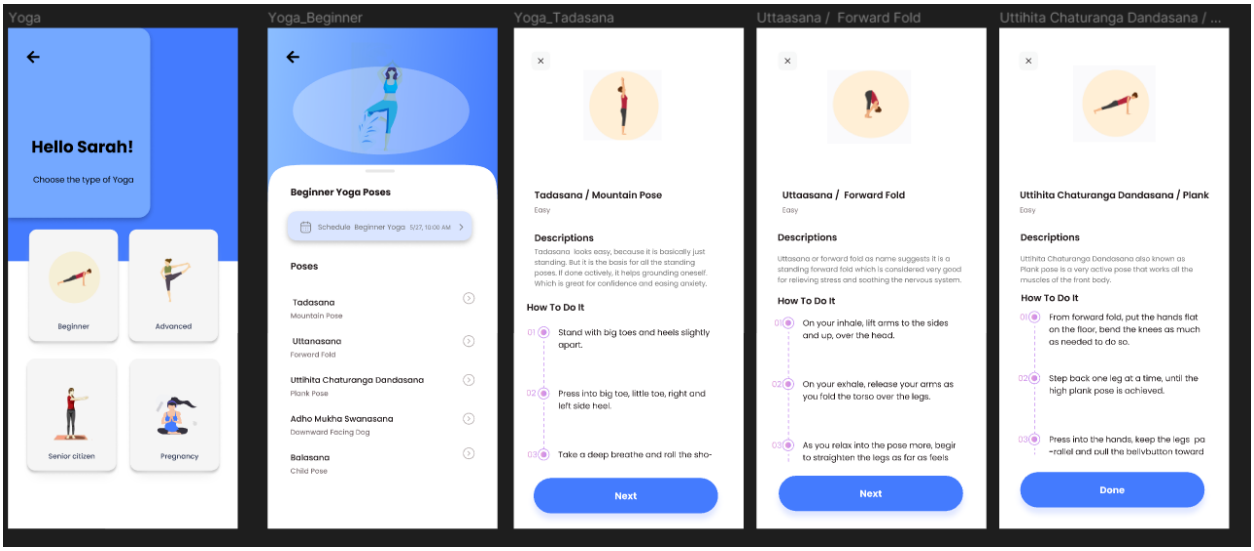
Subtask 6.1: In the meal schedule the application provides the list of meals selected by the user and it shows the total meal nutrition like calories, fiber, fat, etc.

9. Yoga

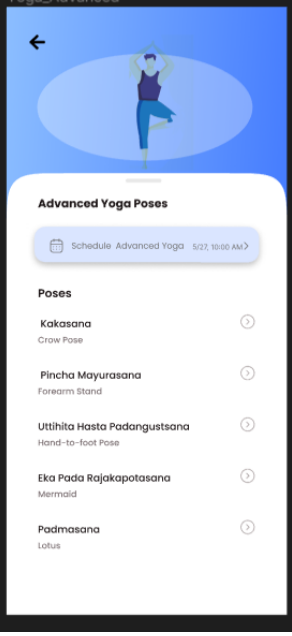
Functionality:

The fitness app's Yoga feature seeks to present users with a variety of yoga positions based on their fitness levels and demands. Users will be able to choose between four different alternatives, including beginner, advanced, senior citizen, and pregnant ladies. Users will be able to read through step-by-step instructions as well as videos on how to appropriately do each pose. In addition, users can arrange yoga sessions at their leisure.

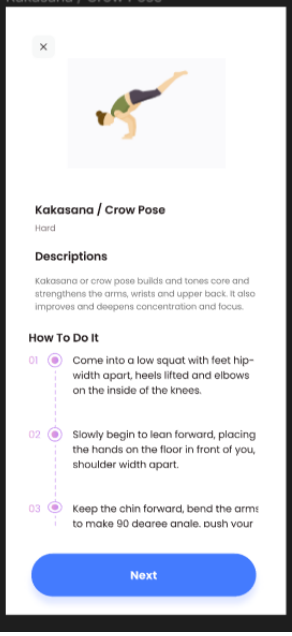
Photos of the implementation:



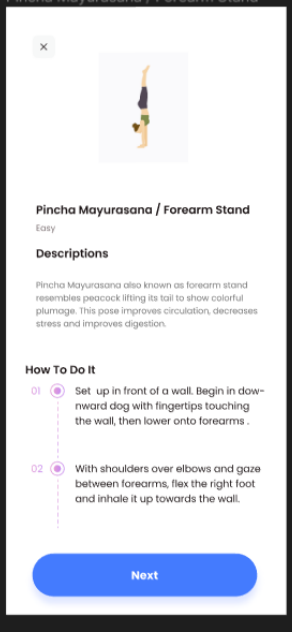
Yoga_Advanced



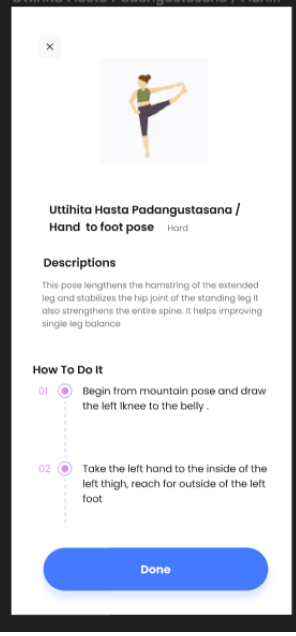
Kakasana / Crow Pose



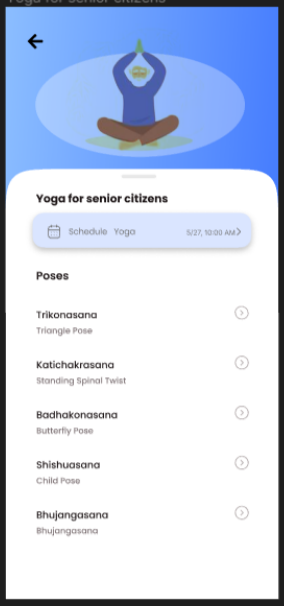
Pincha Mayurasana / Forearm Stand



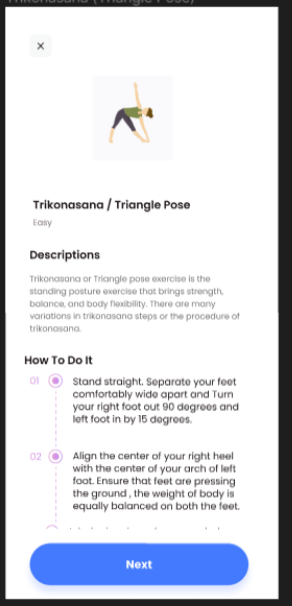
Uttihita Hasta Padangustasana / Han...



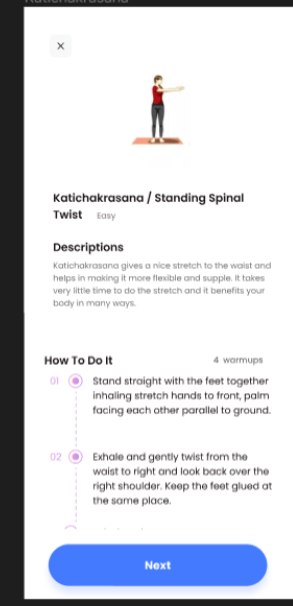
Yoga for senior citizens



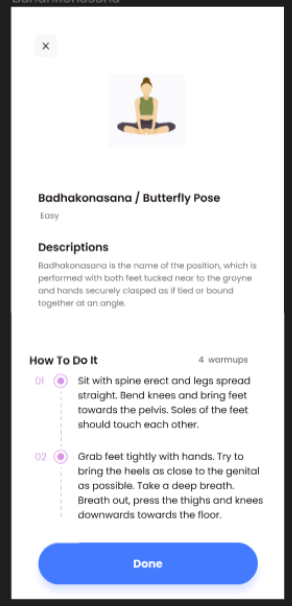
Trikonasana (Triangle Pose)

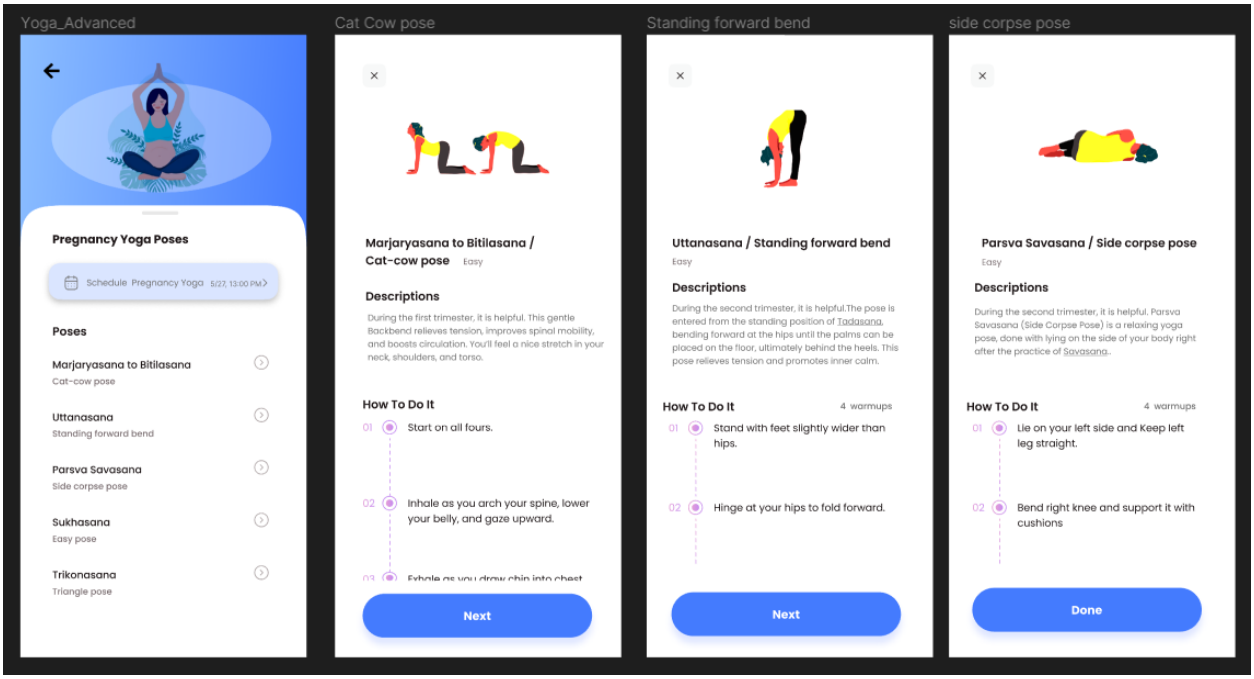


Katichakrasana



Bandhkonasana





Design principles/universal usability principles utilized or implemented:

Prevent Errors: The application incorporates the features that prevent errors from occurring, such as providing detailed instructions on how to perform each pose correctly and a video of the yoga poses as well.

Consistency: Each option is having different poses in the theme but in each section, there's consistency in the theme. The interface is consistent across all yoga poses to ensure that users can quickly understand the steps involved in each pose. And there's consistency in the text color and size as well.

Cater for universal usability: Here the app provides the options which make it universal. Everyone from a beginner to a pregnant woman, even the senior citizen can use the application for the purpose of Yoga.

Details of Interaction Style:

Menu selection: Users can select the type of Yoga poses he or she wants to perform from the four options provided by the interface which are beginner, advanced, senior citizen, and pregnant woman.

Button-based Interaction: The user can click on the poses for which the user wants to know the steps or watch a video and learn how it is done properly.

Hierarchical Task Analysis:

Goal: To perform Advanced Yoga and schedule it

Task1: Select the Yoga feature from the options

- Subtask 1.1: The application provides four options
- Subtask 1.2: The user selects the Yoga option from them

Task2: Choose the type

- Subtask 2.1: The application provides four options for the types of yoga
- Subtask 2.2: The user selects the Advanced option from the provided options

Task3: Understanding the poses

- Subtask 3.1: The application provides the details, steps, and video of the advanced yoga poses
- Subtask 3.2: The user watches the video and understands how to perform each pose

Task4: Scheduling Yoga

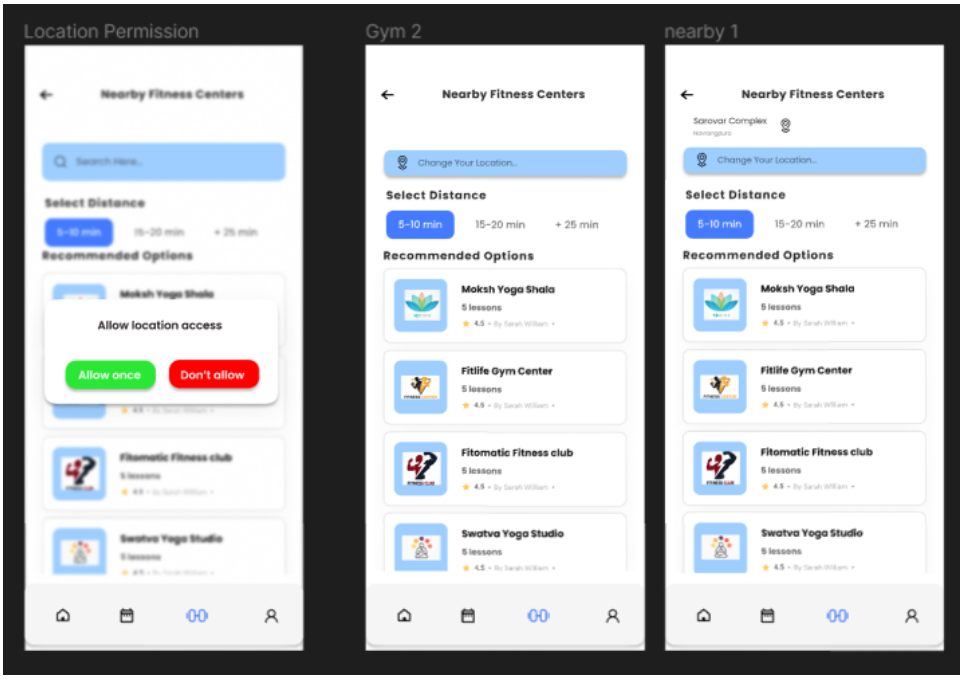
- Subtask 4.1: The user selects the time and date to schedule the Yoga
- Subtask 4.2: The application schedules the Yoga accordingly

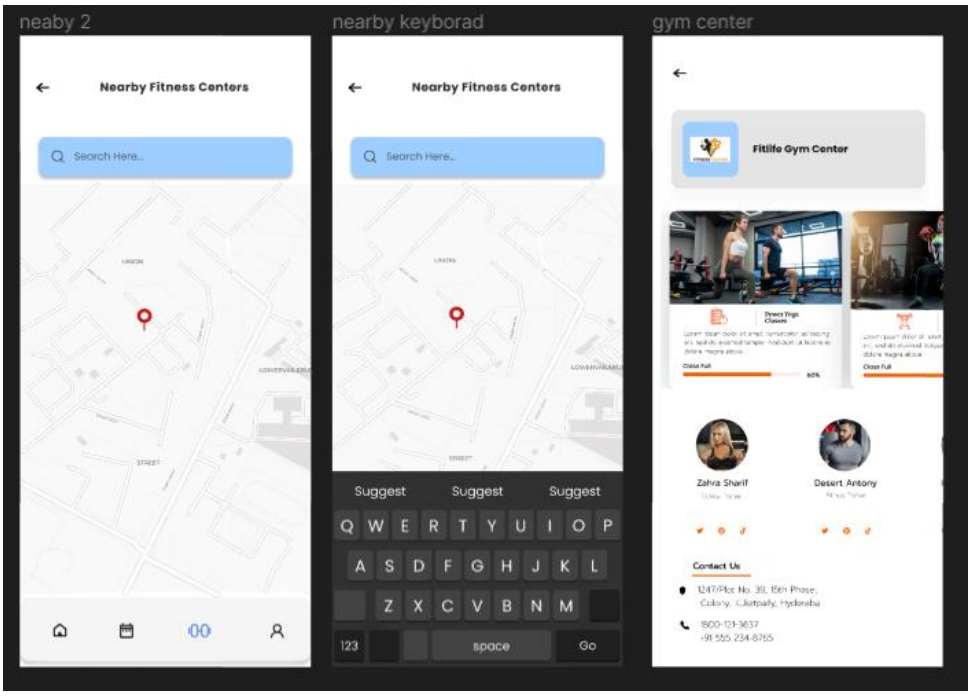
10. Nearby Fitness Centers Suggester

Functionality:

Based on the user's current location, the nearby fitness center function informs users of the closest yoga class, gym, or fitness club. The user may quickly search for various areas and choose how far they are ready to drive. Also, the feature offers specifics about each fitness facility, including class schedules, trainer bios, contact information, and opening and closing hours. The capacity of a class can also be checked by users.

Photos of the implementation:





Design principles/universal usability principles utilized or implemented:

Visibility: Users can readily locate the local fitness center function because it is prominent and accessible from the app's home screen.

Consistency: The app's design for the function is similar throughout, making it simple for consumers to comprehend and utilize.

Feedback: When a user chooses a gym or performs a location search, the functionality gives them feedback right away. The viewer may view the details of that fitness center or yoga class, including the name, picture, and social network accounts of the instructor.

Details of Interaction Style:

Direct manipulation: The user may modify their position or look for a new place by interacting with the map directly. Also, they may click on a fitness center to get additional details.

Menu selection: Using a drop-down menu, the user may choose from a variety of distance alternatives.

Input/Output: The user enters their location and is shown with a map and a list of nearby fitness facilities as an output.

Hierarchical Task Analysis:

Goal: Finding a suitable fitness center

Task1: Finding the feature

- Subtask 1.1: The user clicks on the dumbbell icon
- Subtask 1.2: The application takes to the page

Task2: Providing Location

- Subtask 2.1: The application asks for the current location access from the user
- Subtask 2.2: The user allows the the access for once
- Subtask 2.3: The Application access the user location

Task3: Providing the distance

- Subtask 3.1: The application asks the user to provide the range in which the user wants to find the fitness center
- Subtask 3.2: The user selects the distance from the options given.

Task4: Selecting the fitness center

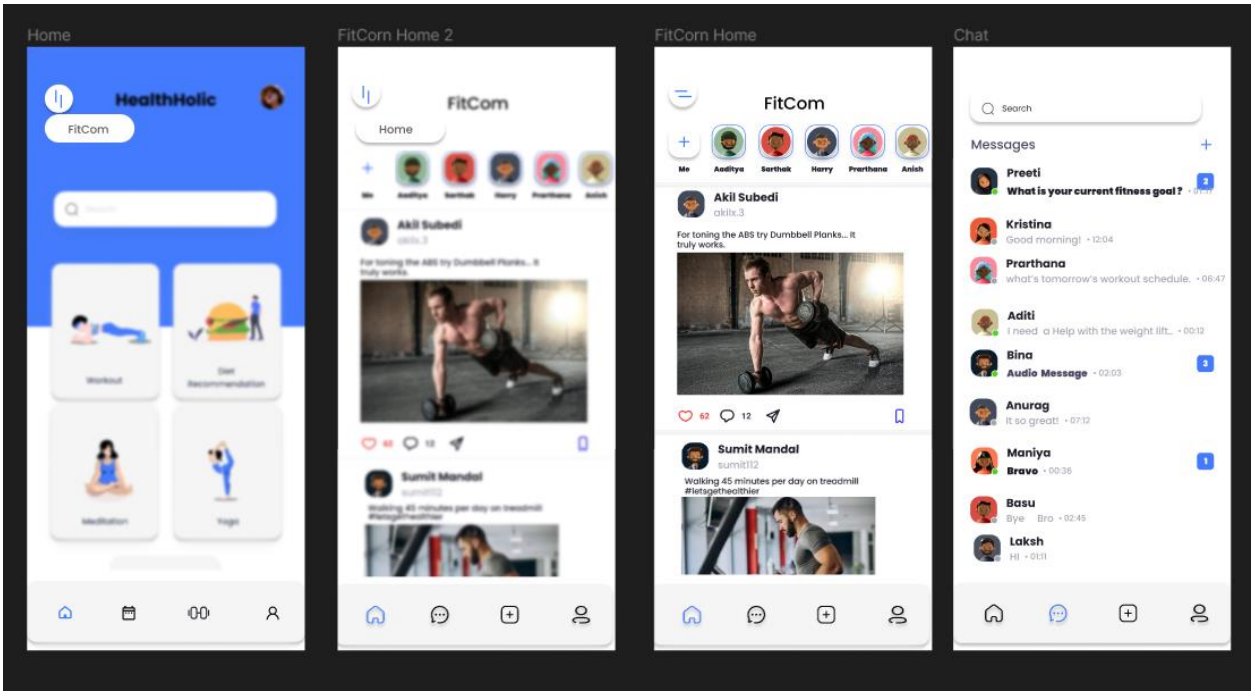
- Subtask 4.1: The application shows the options of fitness centers according to the user's current location and the selected distance range
- Subtask 4.2: The user clicks on the options
- Subtask 4.3: The application provides the information about the fitness centers
- Subtask 4.4: The user finds the appropriate center, with the information provided by the application, contacts the center.

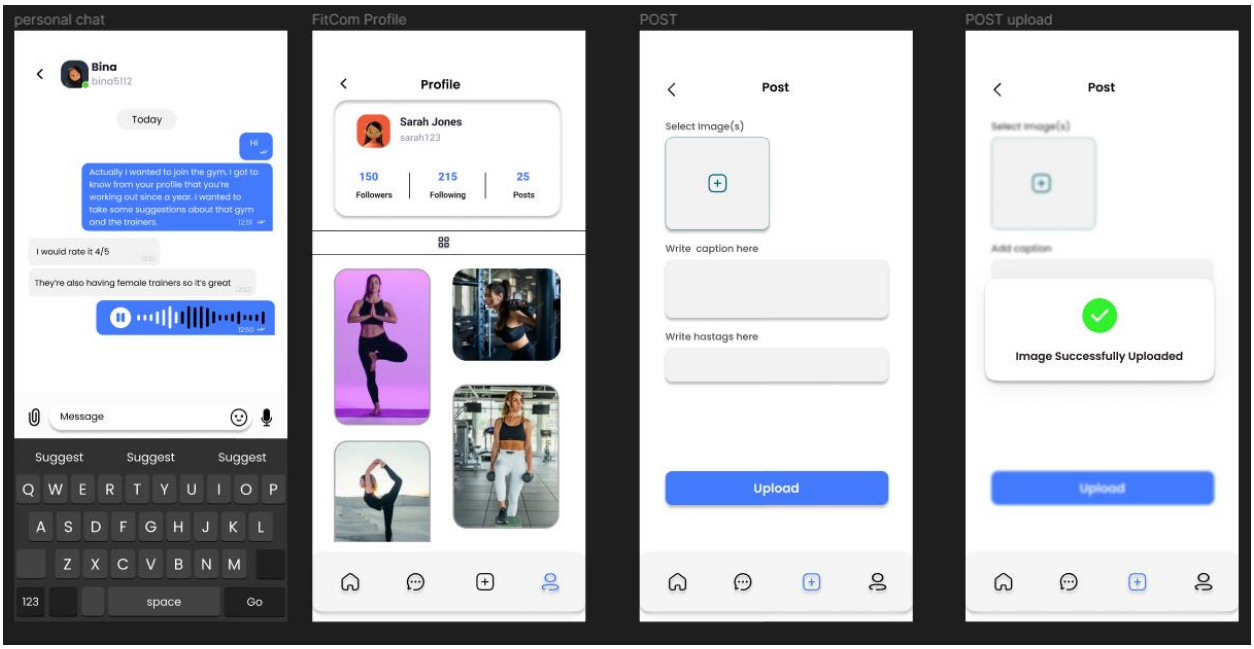
11. Social Sharing

Functionality:

The FitCom feature is a social media-like platform built within the fitness app that allows users to interact with their yoga and gym partners. Users may check profiles, communicate with friends and trainers, post their own photos and stories, like, comment, share, and save postings in addition to viewing what their friends are publishing.

Photos of the implementation:





Design principles/universal usability principles utilized or implemented:

Consistency: The FitCom feature has a uniform look across the whole programme, which makes it simple for users to comprehend and utilize.

Feedback: When a user likes, comments on, shares, or saves a post, they immediately receive feedback from the feature.

User freedom and control: The user has the option to edit or remove any of their postings or chats.

Details of Interaction Style:

Direct manipulation: The user has the ability to directly affect both their own postings and the posts of their friends by favoriting, commenting, sharing, or saving them.

Selecting options from a menu allows the user to choose among options like checking profiles, interacting with friends, and sharing photographs and tales.

Input/Output: Users enter their own conversations and posts, and they get text, photographs, and tales about the chats and posts of their friends.

Hierarchical Task Analysis:

Goal: To actively interact with fitness community

Task1: Finding the community share button

- Subtask 1.1: The user clicks on the button on the leftmost corner of home screen
- Subtask 1.2: The application gives the option of FitCom
- Subtask 1.3: The user clicks on the FitCom button
- Subtask 1.4: The application takes to a new set of features related to community share
- Subtask 1.5: The application takes the user information of user such as username and email from the original application profile

Task2: Share post related fitness

- Subtask 2.1: The user clicks on plus icon from the icons below
- Subtask 2.2: The application takes the user to a page where the application asks the user to select the photo he or she wants to post and the caption and the hashtag he or she wants to write.
- Subtask 2.3: The user selects an image and enters captions and hashtags. Each in different field boxes.
- Subtask 2.4: The application gives the message of succession of uploaded images.

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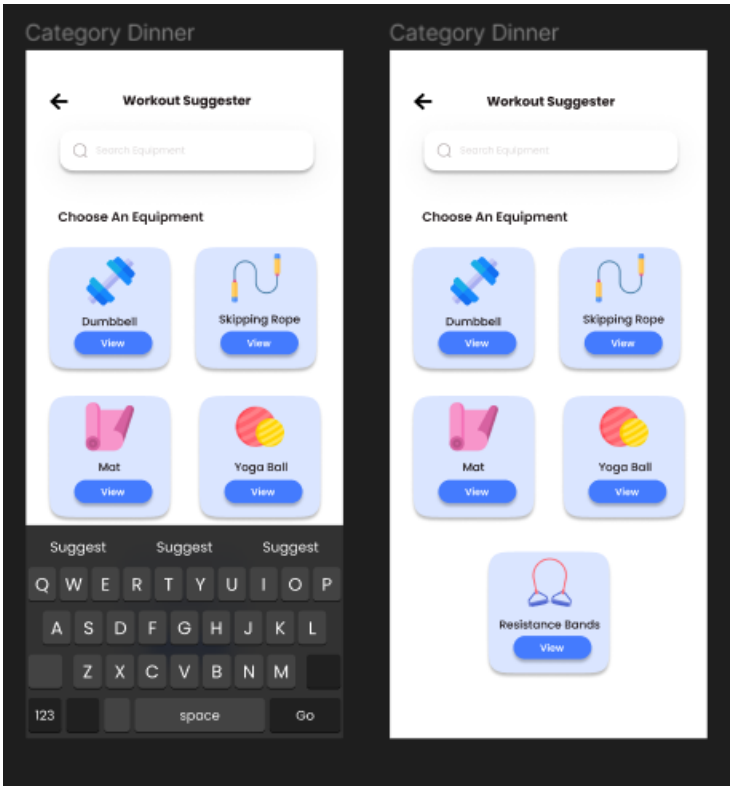
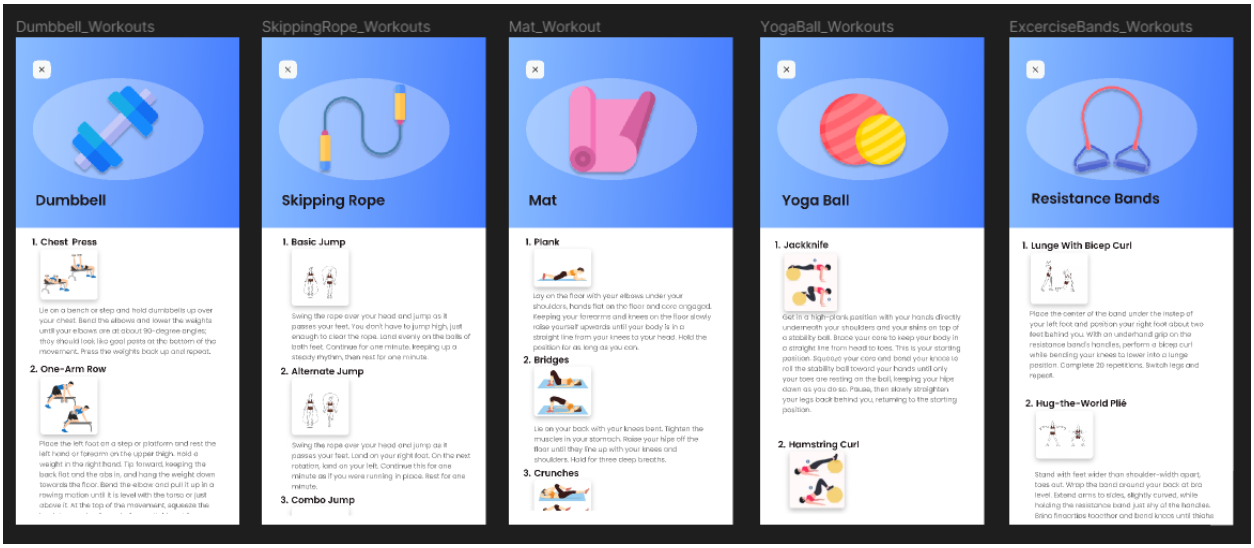
12. Exercise Suggester

Functionality:

The feature provides five options of the five equipment to the user which are dumbbell, skipping rope, exercise mat, exercise ball and resistance band. The feature then provides brief information, according to the choice of the equipment done by the user. , about how the exercise is done.

Photos of the implementation:





Design Principles:

User-centered design: The feature was created with the user in mind, making it simple for them to select equipment and examine workout recommendations.

Consistency: The feature keeps the user flow consistently throughout, making it simple to browse and understand.

Feedback: The feature gives the user feedback at each stage of the process, ensuring that they know what to expect.

Details of Interaction Style:

The Workout Suggester feature's interface approach is of direct manipulation. By touching on the correct option, the user can select the equipment they have access to. After selecting the equipment, the feature presents a list of workout options that the user can navigate through.

Hierarchical Task Analysis:

Goal: Perform exercise according to the available equipment

Task1: Find and select the feature

Subtask 1.1: The user clicks on the exercise suggester from the home screen

Subtask 1.2: The application takes the user to the suggester screen

Task2: Selecting the equipment

Subtask 2.1: The application gives five equipment options to the user to choose from which are dumbbell, skipping rope, exercise mat, exercise ball and resistance band.

Subtask 2.2: The user selects dumbbell option

Subtask 2.3: The application shows the easy to perform exercises with dumbbells and briefs of how to perform them.

Chapter 5: Difficulties Encountered and Resolved

Description of debugging/trouble-shooting:

1. **Alignment Issues:**

   Alignment difficulties are a common problem that we faced while working on UI designs in Figma. These problems can occur when items on the design canvas are not properly aligned, resulting in visual inconsistencies in the UI.

   We overcame this problem by using Figma's alignment tools, such as the alignment and distribution buttons, to align and distribute the pieces uniformly.

2. **Layers not appearing correctly:**

   While working with Figma, one typical issue is that layers or objects do not display correctly or appear to be missing from the canvas. One can choose the affected layer and ensure that it is not hidden or masked by other objects to address this issue. We used to also inspect the layer's position on the canvas and alter it as needed.

3. **Components failing to update properly:**

   Another issue that can occur in Figma is when components fail to update properly when changes are made. This can occur when the component has many instances or when the component is contained within another component. We tried detaching the affected instances and reapplying the updated component to resolve this issue.

Chapter 6: Real Life Implementation Perspectives

Real life problems and its proposed solutions, security and Privacy issues/concerns involved, rules and regulation requirements.

1. a) **Integration of numerous features:**

   It might be difficult to develop an application that combines many features such as Nearby Fitness Centers Suggester, Social Sharing, Exercise Suggester, Diet Recommendation, Workout, Yoga, and Profile. To guarantee that these features function efficiently, a systematic approach and technical knowledge are required.

   b) **Difficulties with compatibility**:

   The application must be compatible with a wide range of devices and operating systems like Windows, Mac, and Linux Developers must guarantee that the application works across several platforms, operating systems, and screen sizes.

   Solution:

   Using a cross-platform development framework such as React Native or Flutter is one of the better options. This will make developing the application for numerous platforms and screen sizes easier.

2. **Personal Data Protection:**

The fitness app captures sensitive user data such as location, fitness level, and personal information, all of which must be kept secure. Users want their data to be safe and secure.

Solution:

Encryption methods may be used by developers to secure sensitive user data. In addition, the app should include secure login and authentication procedures. To discover and repair vulnerabilities, regular security audits and upgrades are required.

Chapter 7: References

https://www.figma.com/file/PNuoPtI7JYX1rKamMCSOeZ/HCI_Project_HealthoHolic?node-id=0%3A1&t=HZPG2f81ZqErYB9T-1

Questionnaire

1. **User Background and past experience**

    1.1 Enter your name

    1.2 Select your age
    - 13-19 years
    - 20-35 years
    - Above 35 years

    1.3 Select your gender
    - Male
    - Female
    - Other

    1.4 Enter your current occupation

1.5 How often do you exercise in a week

- Less than 3 days
- 3 to 5 days
- More than 5 days

1.6 Have you used any fitness before ?

- Yes
- No

2. **App design and usability**

NA= Not Applicable

2.1 How important is the look and design to you ? less important very important
0 1 2 3 4 5 6 7 8 9 NA

2.2 How easy was it to find the features ? easy hard
0 1 2 3 4 5 6 7 8 9 NA

2.3 How easy is it to use the features overall? easy hard
0 1 2 3 4 5 6 7 8 9 NA

2.4 How easy was it to search for anything ? easy hard
0 1 2 3 4 5 6 7 8 9 NA

2.5 How easy was it to input data and track easy hard

the progress ? 0 1 2 3 4 5 6 7 8 9 NA

3. Screen Design and learnability

3.1 How visually appealing is the interface ? less Very Appealing Appealing
0 1 2 3 4 5 6 7 8 9 NA

3.2 How engaging is the interface ? less Very Engaging Engaging
0 1 2 3 4 5 6 7 8 9 NA

3.3 How simple are the colors, typefaces, and overall layout of the app screens to read? easy to read Hard to read
0 1 2 3 4 5 6 7 8 9 NA

3.4 How logical is the sequence of the screens in the app flow ? illogical Logical
0 1 2 3 4 5 6 7 8 9 NA

3.5 How easy was it to understand the icons and illustrations ? easy hard
0 1 2 3 4 5 6 7 8 9 NA

4. User satisfaction

4.1 How much is your overall satisfaction with the app? not satisfied satisfied
0 1 2 3 4 5 6 7 8 9 NA

4.2 How likely are you to recommend the app to others? not likely likely
0 1 2 3 4 5 6 7 8 9 NA