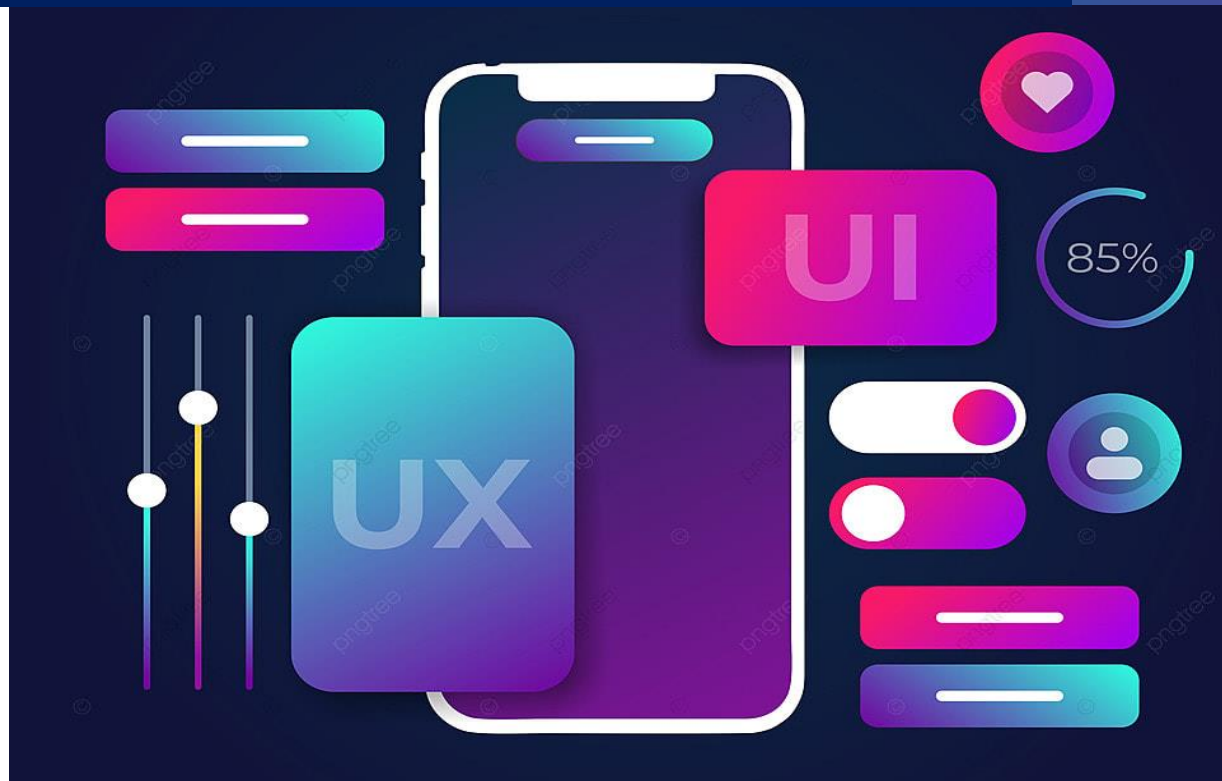


# UI UX Design Challenge Project



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Date: 8/23/2023

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## Problem Statement

Create an innovative approach that encourages individuals at risk or already living with chronic diseases to adopt healthier behaviors, offers remote monitoring options, and provides personalized interventions to effectively prevent and manage their conditions.

## Introduction

The purpose of this challenge is to provide a solution that caters the global health challenge of chronic diseases. This should focus on following factors:

- Behavior changes
- Remote monitoring of health parameters
- Personalized interventions.

This will improve the life style of the individual, providing better health care monitoring system, and offering personalized interventions. Aim is to prevent the onset or progression of chronic diseases and improve patient outcomes.

## Goals

The goal for our solution is to:

- **Promote behavior changes:** To promote the individuals to maintain healthy behaviors to reduce the risks of chronic disease or to maintain the level of diseases (e.g. diabetes)
- **Enable remote monitoring:** Remote monitoring can be done by using some sort of data that can be added to some platform from the comfort of their home.
- **Personalized interventions:** Provide interventions based on individual's specific health conditions, needs and goals.
- **Improve patient's health conditions:** Enhance the health condition by pro
- **Reduce overall healthcare costs:** The solution will provide monitoring and control the health conditions and provide solutions. This will reduce the overall health cost.

## Scope

Mobile Application will be created due to its accessibility. It will support behavior change, remote monitoring of patients, and personalized interventions. It will incorporate features that facilitate self-tracking, provide educational resources, offer goal setting and progress tracking, enable communication with healthcare professionals, and utilize advanced technologies for remote health monitoring. Also, by using the data that patient will provide we can predict what will be his health state. For example, if the person's daily intake sugar is too much. This may alert them that in the upcoming months you can have diabetes. Also plan for chronic diseases will also be incorporated.

## Target Audience

The target audience will be:

- The individuals who are at risks of developing such chronic diseases.
- The individual who are already living in these conditions.

The Age group is very broad from young, adults to elderly, with varying level of technical proficiency.

## Functional Requirements

- **User Registration:** User can create his account and also provide relevant demographics and health history if any. User can also set goals initially.
- **Remote Health Parameter Monitoring:** enable users to track their health parameters such as, glucose level, weight, activity level, and medical adherence etc. considering the user is willing to do this.
- **Behavior Change Programs:** Offer different plans and programs to facilitate the user to perform better. For example, weight losing plan, stress management plan, monthly diet plan, and nutrition guidance etc.
- **Goal Setting and Progress tracking:** The health goals can be set by the user during registration and can be change if user wants. When health goals are set, user will get a plan accordingly and track their progress accordingly.
- **Education and Resources:** Provide different article and videos which is personalized only for specific users. This is possible because user set the goals and the contents will be shown to him/her accordingly.
- **Virtual Connection with Healthcare Professionals:** The user can message the professionals which is secure and also video consultation is also possible to offer guidance, discuss concerns and advices.
- **Reminders and Notifications:** user will get notifications on medical adherence, appointments, goals milestones and all the upcoming educational resources.
- **Integration with wearable devices (Optional):** The system can be integrated with popular smart watches or any wearable devices to track their health in real time.
- **Data Analytics and Insights:** The data that the user is providing will be analyzed and provide the user with action plan, recommendations and trends to track their health for future by sensing the patterns.
- **Privacy:** The data protection measurements should be catered and comply with the privacy standards to maintain confidentiality.

## Key Features

The features that application will have are following:

- Remotely heath monitoring of the user

- Personalized behavior changes programs
- Educational contents and tools
- Goals setting and progress tracking
- Virtual connection to healthcare professionals
- Data analytics and insights
- Reminders and notifications for adherence
- Privacy and security integration

### Assumptions

- The users have smartphones or computers with internet connection.
- Users are willing to provide medical history and their personal records.
- Users are willing to improve health and want to prevent chronic diseases.
- Devices can be connected through Bluetooth.
- Dark Mode is currently not designed only one screen designed to give an idea.

### Competitor analysis

Features	Google Fit	Withings	My fitness Pal	Omada Health
Remotely health monitoring of the user	✓	✓	✗	✓
Personalized behavior changes programs	✓	✓	✓	✓
Educational contents and tools	✓	✗	✓	✓
Goals setting and progress tracking	✓	✓	✓	✓
Virtual connection to healthcare professionals	✗	✗	✗	✓
Data analytics and insights	✓	✓	✓	✓
Reminders and notifications	✓	✓	✓	✓
Privacy and security integration	✓	✓	✓	✓
Integration with wearable devices	✓	✓	✗	✓
Medical Adherence	✗	✗	✗	✓

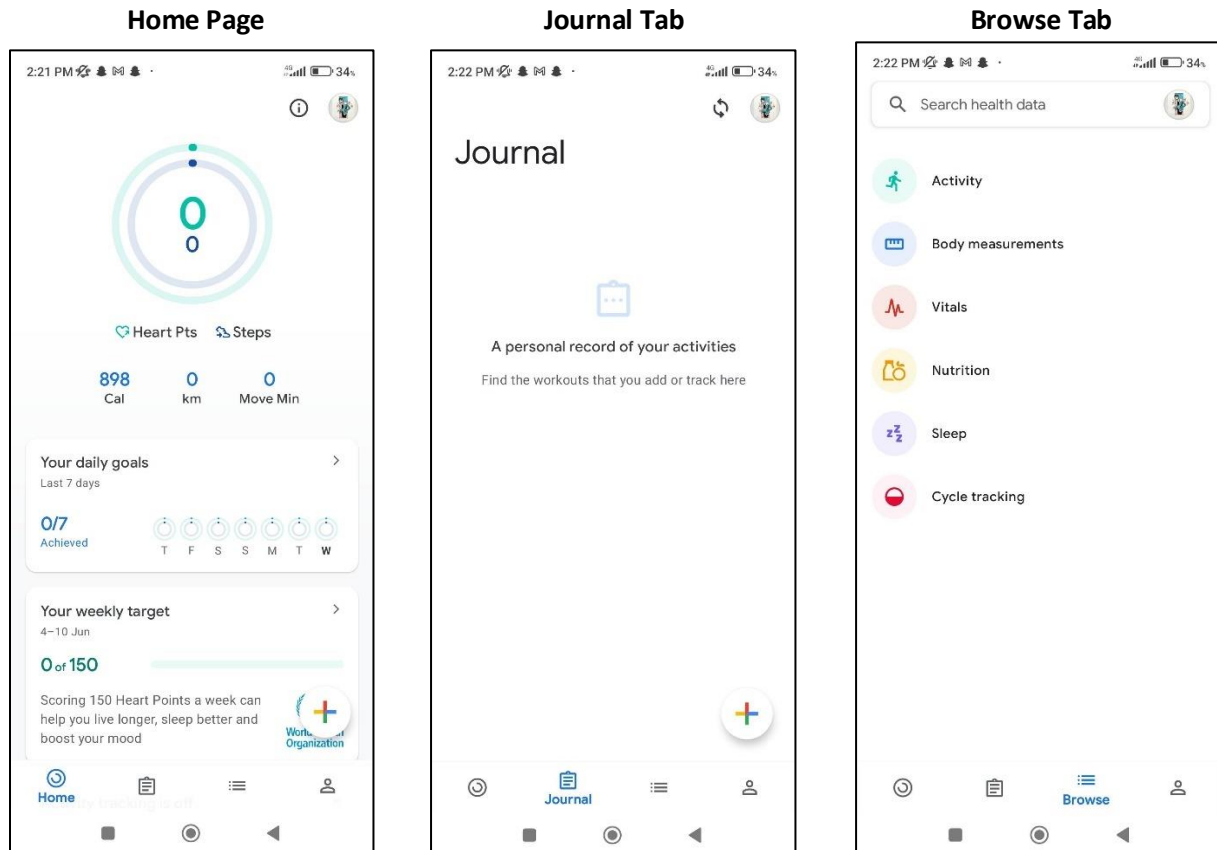
#### **Note:**

- ✓ = Yes  
 ✓ = Moderate  
 ✗ = No

## Google Fit

Google fit have very robust tracking system with the integration with smart devices. But it lacks proper personalization when it comes to manage or prevention of chronic diseases. Google fit also do not provide any sort of communication with health care professional. While it can be integrated with other applications too.

### Screens

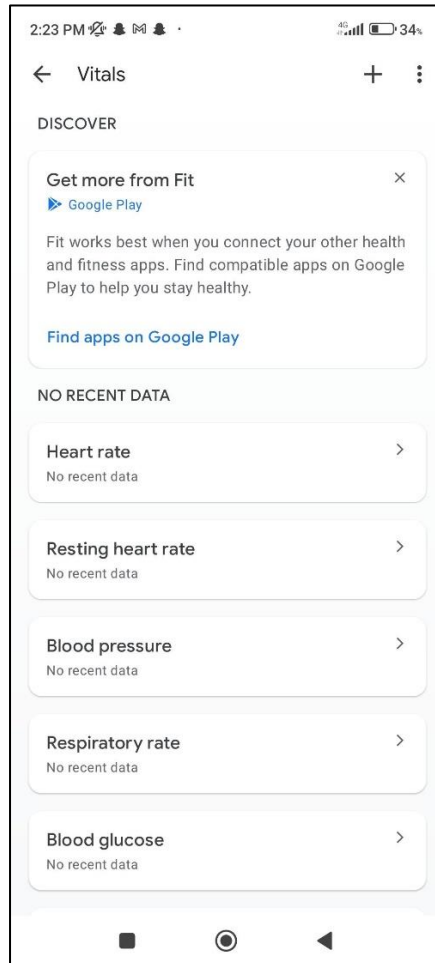


- Heart rates check
- Targets
- Activity Tracking
- Trends
- Links to some functionalities like sleep cycles, walking etc.

- The activity logs are listed here
- Plus sign is for adding vitals in each tab

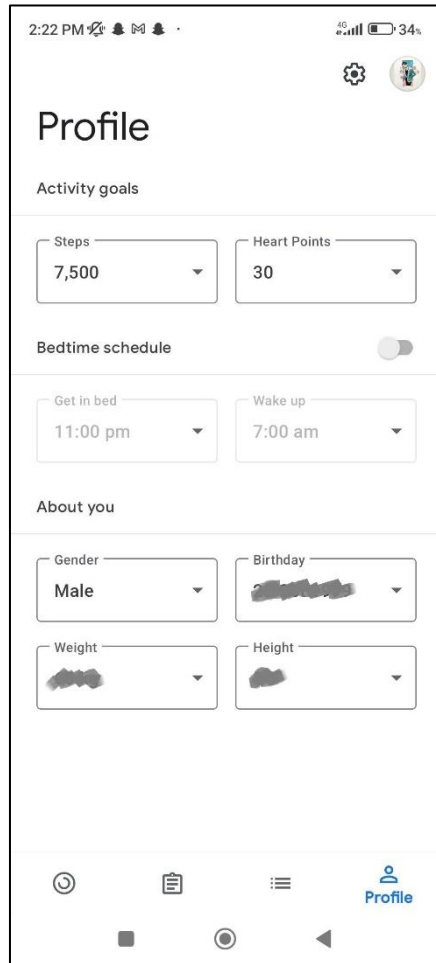
- It contains all the personal related data.
- We can select each one and add the data or learn why it is necessary

## Profile Tab



- Opening any section in Browse tab will let user to add vitals

## Vital Section



- Profile Tab contains personal information
- Settings for Units, notification, display, account settings etc.

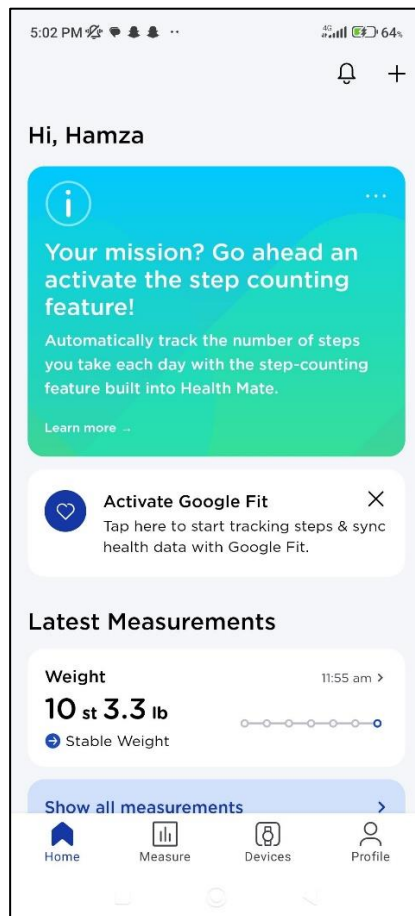


## Withings

It is very similar to Google Fit application, but it does not provide any section to educate the user or to show them content related to their condition. It also has the functionality to link with other application e.g. using My Fitness Pal to adding daily food intake. But it has limited focus on chronic diseases and also lack direct communication with health care professionals but we can share our latest records.

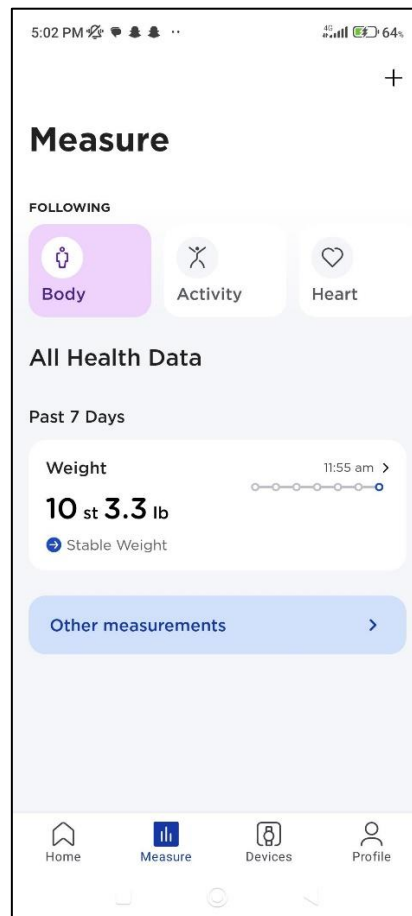
## Screens

Home Screen



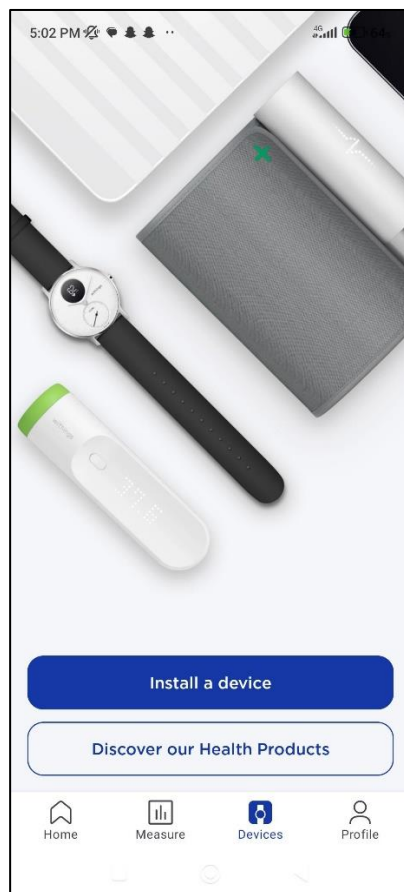
- Missions are set by chatting with the bot available
- This page shows latest trends and programs in which we are in

Measure Tab



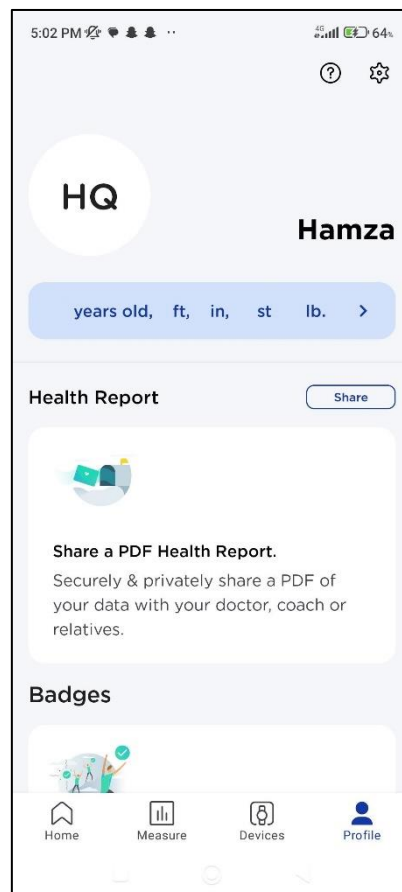
- This page shows data related to the vitals.
- Weight and other measurements which is logging of food intake which is integrated with My Fitness Pal.

## Device Integration Tab



- This tab helps the user to install different devices e.g. watches, sleep sensors, thermometers, trackers
- There is also a link that lead to the website where we can find information about health products

## Profile Tab

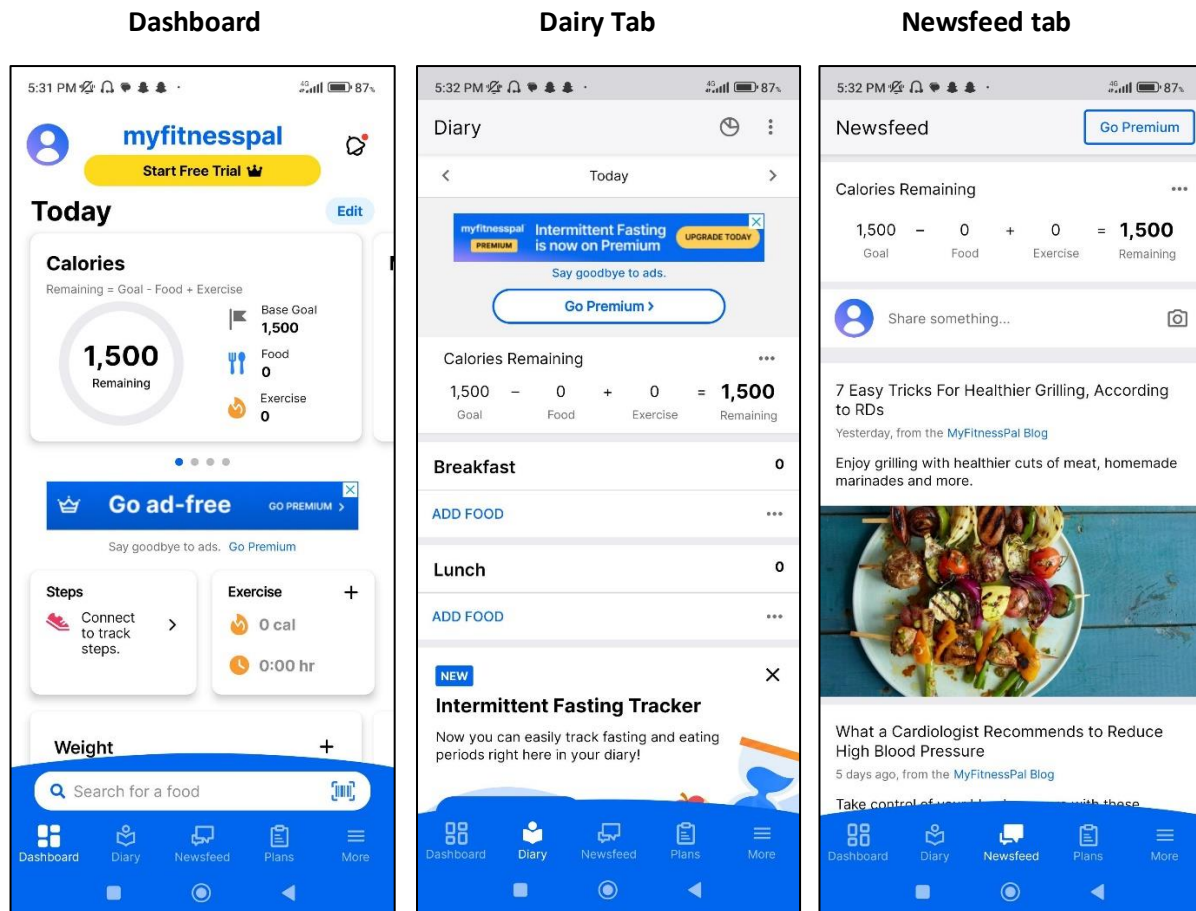


- In profile tab, there is a button for asking question if user wants.
- Settings tab
- There is a system of badges which we can earn by achieving our goals.
- We can have a report of our health in pdf format which can be shared
- We can also add family member
- There is mentioning of the application which withings supports in the form of logos

## MyFitnessPal

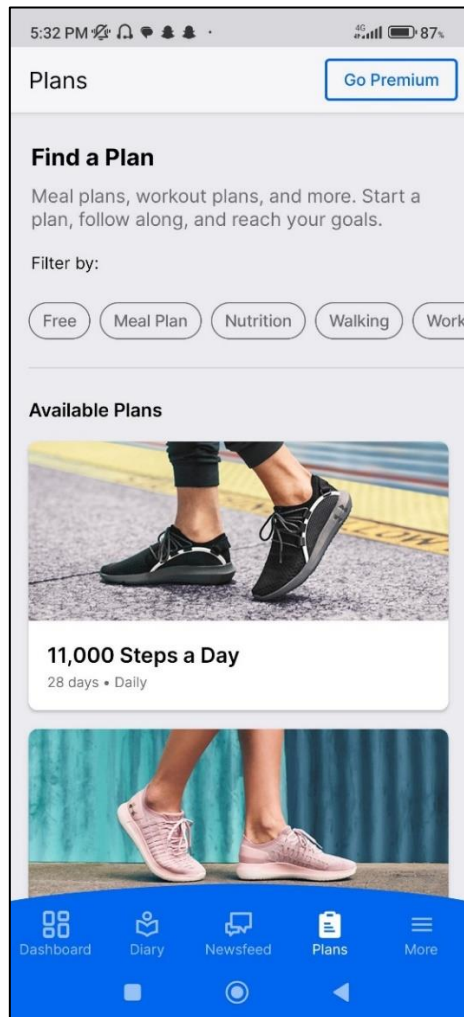
MyFitnessPal has good tracking of food intake and activities. But this application has very limited focus on chronic diseases. This application has good feature of newsfeed, which is very unique. In this tab there are engaging videos and article for the user to look at. This will gain the interest of the user. But it has premium feature which is recently implemented. This made so many users to stop using the application. Because many features that are used in free mode are added in premium version. Also, one thing that is good is tracking of food using bar codes.

## Screens



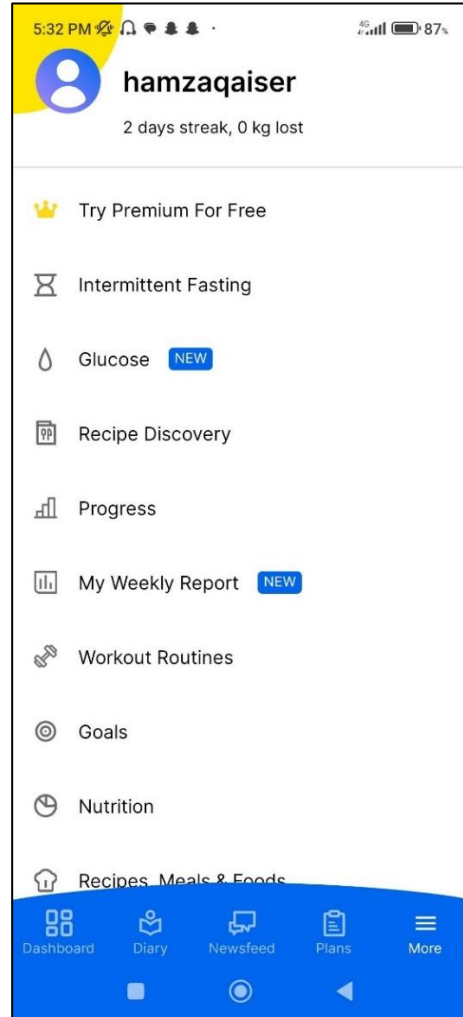
- Dashboard contains Steps, Exercise information, Daily Calories
- Weight Tracking with days
- We can also edit the tabs in dashboard which gives personalized customization
- This dairy tab contains day wise tracking of food intake.
- Categorized food in the four type.
- Water intake tracker
- Nutrition option which shows a pie chart data day wise
- Contains articles, news, videos to engage the audience
- We can also share our insight or upload a video showing e.g. how I plan my day.

## Plans Tab



- We can find plans from the list. But these plans can be paid or free.

## More Tab (Personal)



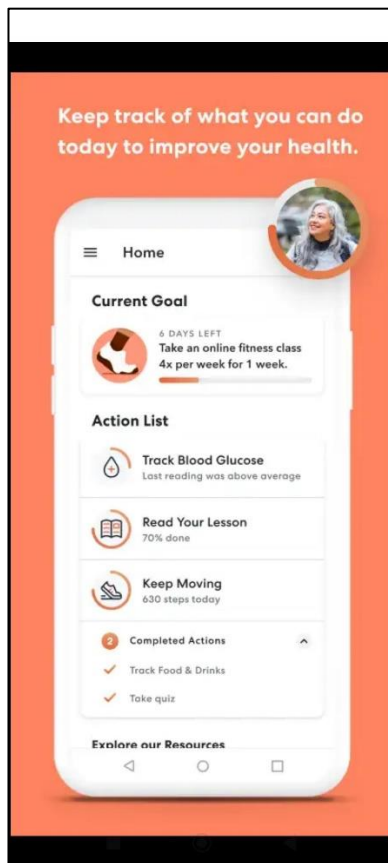
- This tab contains personal information and setting related options

## Omada Health

The features of this application are aligned to what we are going to achieve. Omada Health focuses on behavior change programs, remote monitoring, personalized coaching with health care professionals. There are education lessons and resources options are also there. But this application is limited to area and service cost is high.

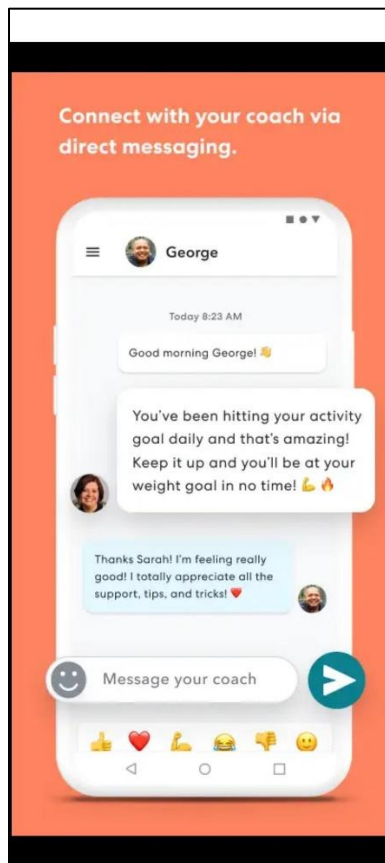
### Screens

#### Daily vitals Tracking



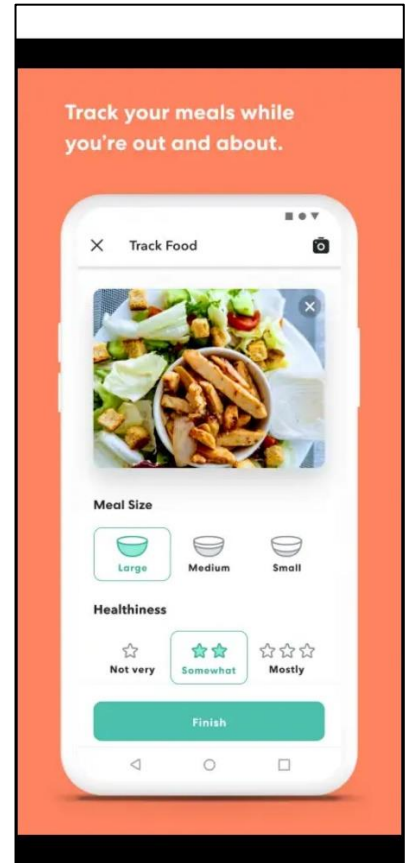
- Tracking of goals on daily bases makes by adding a loading type features to show the progress is good.

#### Texting with professionals



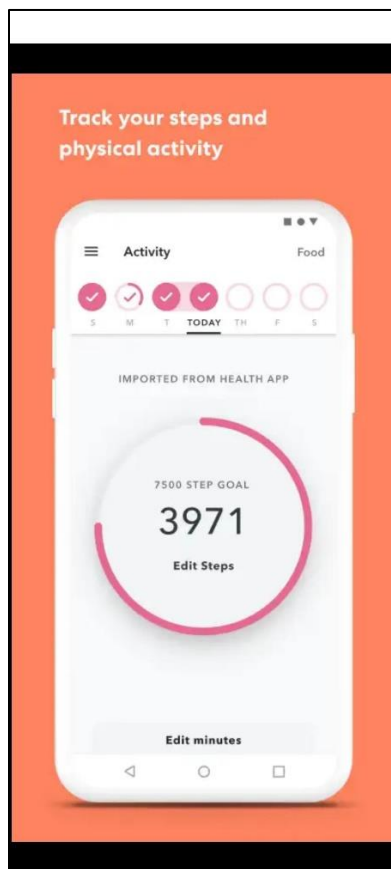
- Users can text to the available professional and get advice. Healthy communication is a key.
- Messages are protected and secure.

#### Meals Tracking



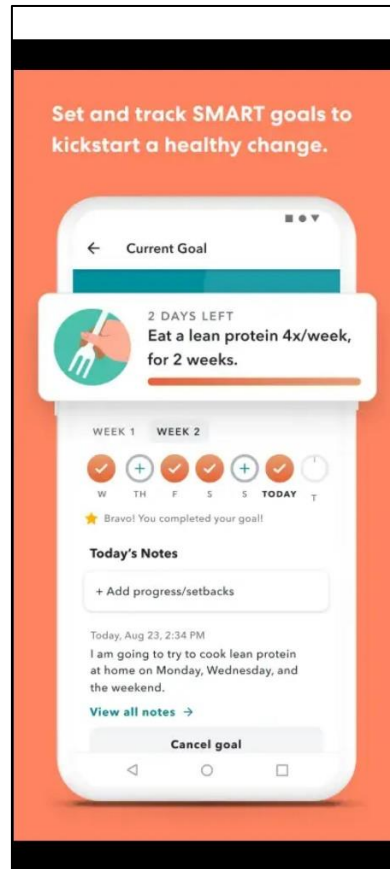
- Daily meals tracking and making quick buttons so that user cannot get frustrated by many actions.

## Activity Tracking



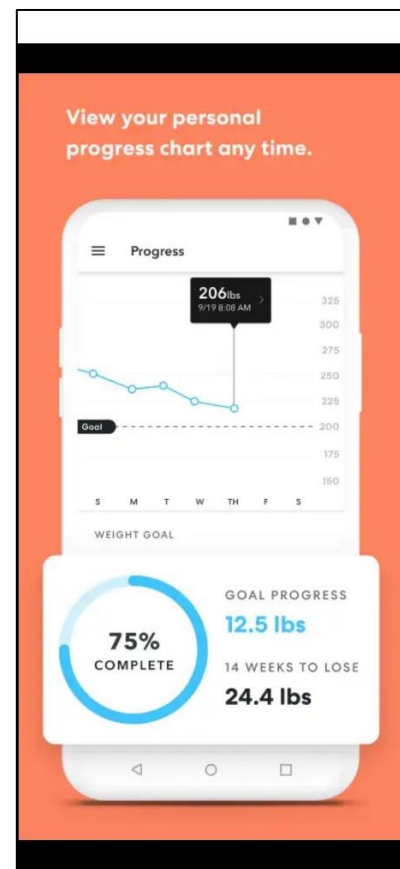
- Weekly activity streaks and steps trackers.

## Goals Addition and Tracking



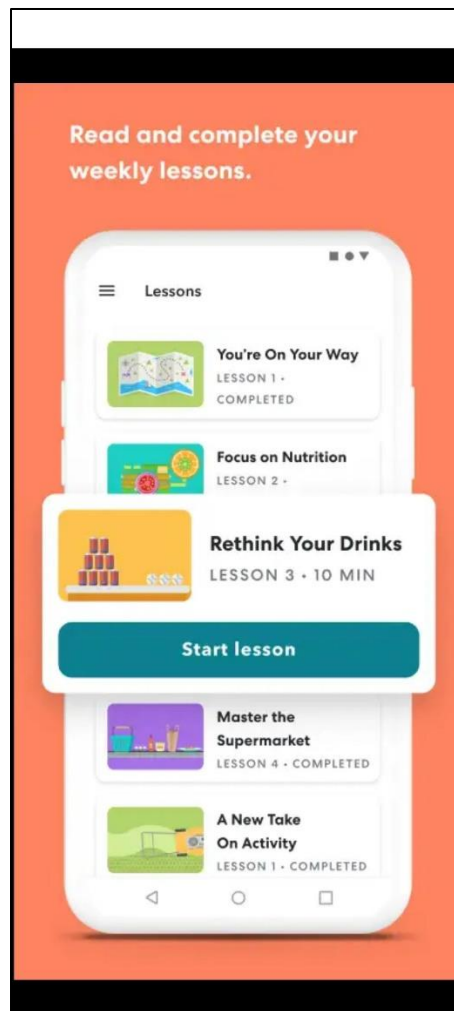
- We can set goals and track it on regular bases.
- Add note and cancel goal if required.

## Progress Mapping & Insights



- Progress mapping is done in the form of charts.
- Showing trends and success flow to create positive impact on user.

## Educational contents and Lessons



- Lessons section will give education regarding your goals.
- We can start any lesson and learn about nutrition etc.

## About Chronic Diseases

Understanding what chronic diseases are is most important when creating a solution.

### Diabetes

Diabetes is a chronic medical condition characterized by elevated levels of blood glucose. There are three types of diabetes:

- **Type 1** (daily insulin dosage is required, usually occurs in children and young adults)
- **Type 2** (often associated with lifestyle factors such as obesity, sedentary lifestyle, poor diet, and genetic predisposition. It can be managed through lifestyle modifications, oral medications, and in some cases, insulin therapy)
- **Gestational Diabetes** (occurs during pregnancy. requires careful monitoring and management to ensure the health of both the mother and the baby)

#### Possible solution

So, diabetes requires adherence of medication and lifestyle changes like losing weight, doing exercises which can easily be catered in our application. Regular checks with professionals can be affective.

### Obesity

Obesity is a medical condition characterized by an excessive accumulation of body fat, to the extent that it may have a negative impact on health. It is typically determined by measuring body mass index (BMI). There are many reasons for obesity in which most common ones are overeating, life style factors and genetics.

#### Possible solution

Diet plans, physical activity trackers, behavior modification and some education can prevent obesity.

### Cardiovascular diseases

Cardiovascular diseases (CVD) refer to a group of conditions that affect the heart and blood vessels, including coronary artery disease, heart failure, stroke, and peripheral artery disease.

#### Possible solution

These kinds of diseases require comprehensive approach. Possible solutions are healthy lifestyle choices, maintain a healthy weight, blood pressure control, cholesterol management, diabetes management, stress reduction, regular health check-ups, medication adherence. All these features can be added in our application. Consultation required with medical professional.

### Reparatory conditions

Respiratory conditions refer to a wide range of diseases and disorders that affect the respiratory system, which includes the lungs, airways, and other structures involved in



breathing. Some are asthma, pneumonia, chronic bronchitis, chronic obstructive pulmonary disease, lung cancer etc.

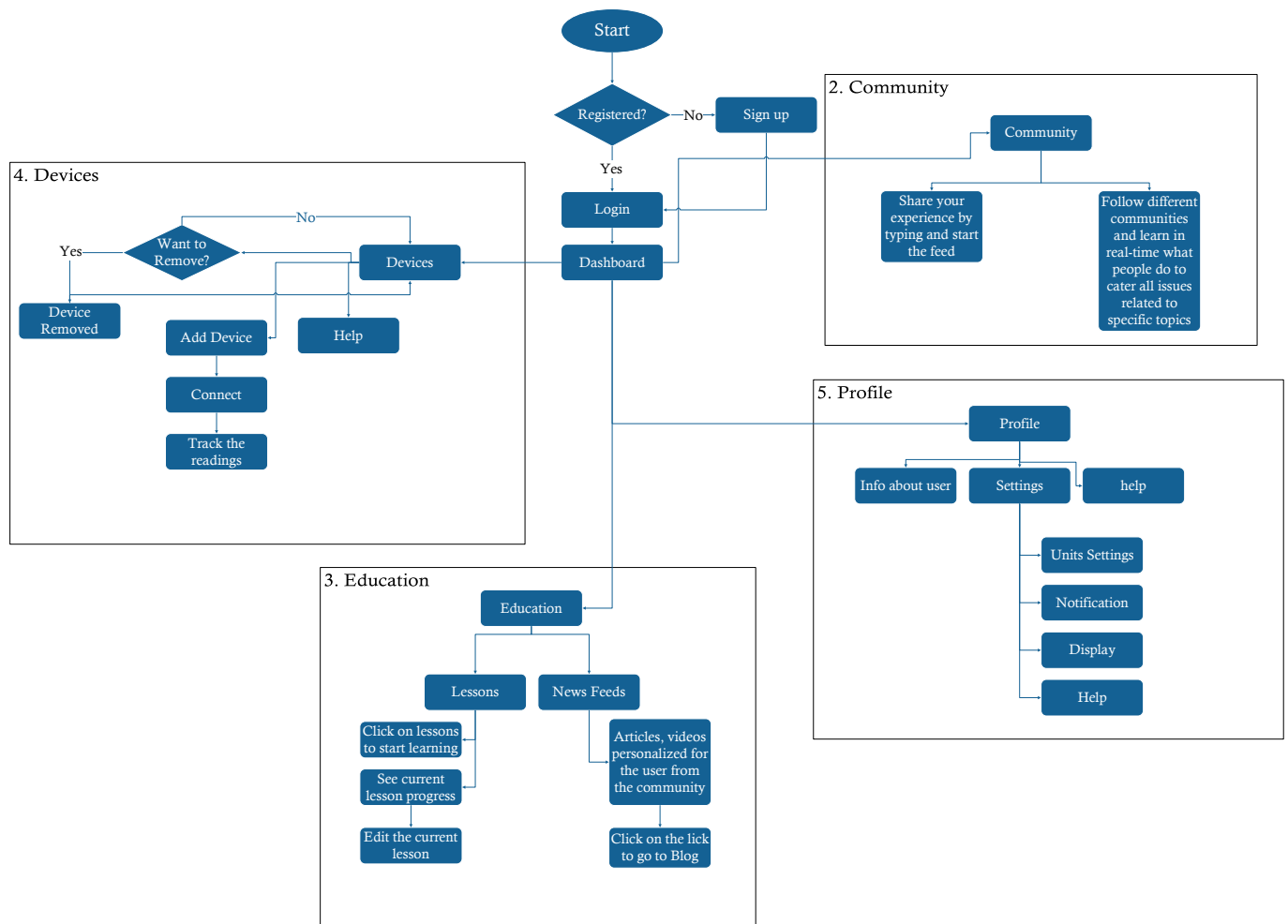
#### Possible solution

Prevention and management of respiratory conditions depend on the specific condition and its underlying causes. This may include lifestyle changes, medication, pulmonary rehabilitation, vaccination (e.g., influenza and pneumonia vaccines), avoidance of triggers (e.g., allergens or irritants), and, in some cases, surgical interventions. Consultation required with medical professional. Not all these can be added but we can incorporate most of features which are plan creation, consultation with professional etc.

### Design Process

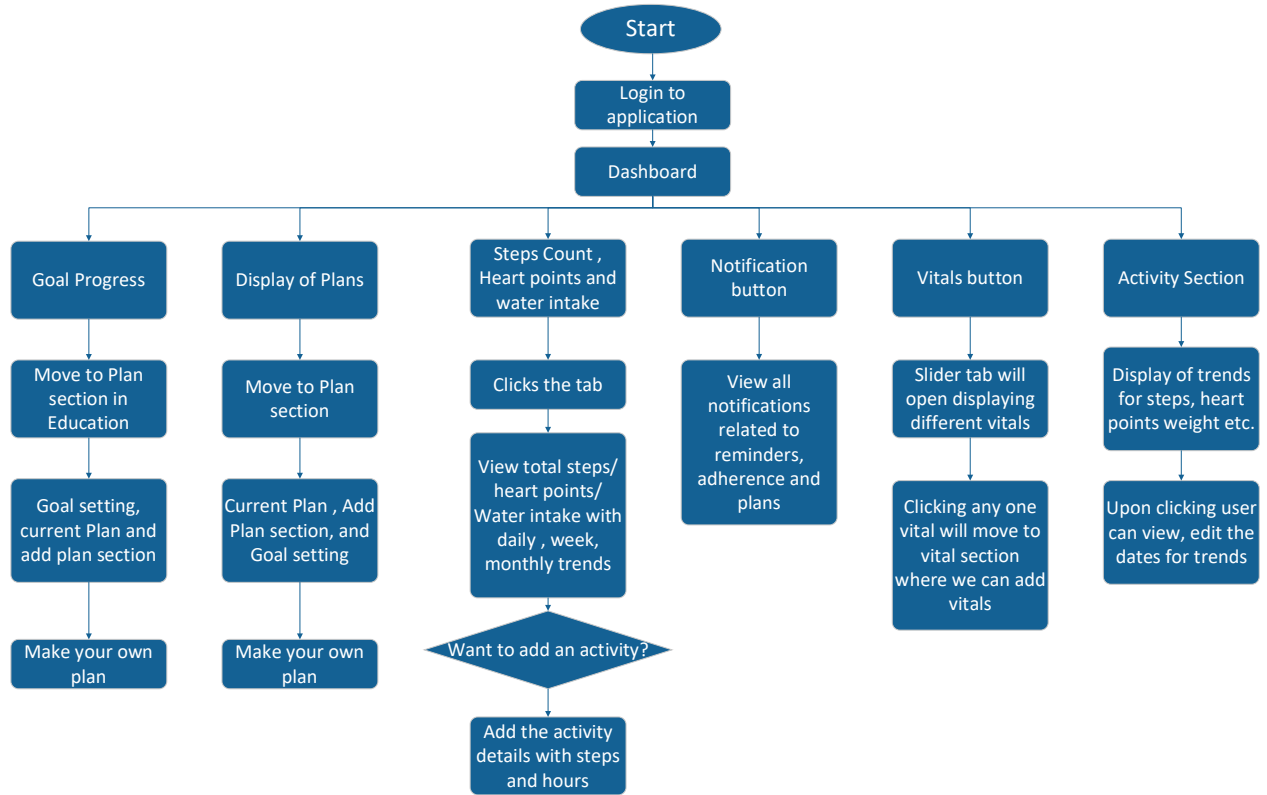
- **Research:** Conduct in-depth research on chronic diseases, behavior change theories, remote monitoring technologies, and user needs.
- **Ideation:** Brainstorm and generate creative ideas to address the problem statement and meet the goals.
- **Concept Development:** Develop the core concept of the solution, defining its key features, functionalities, and target audience.
- **Wireframing:** Create low-fidelity wireframes to visualize the user interface and interaction flow.
- **Prototyping:** Develop high-fidelity prototypes to simulate the user experience and test the solution's usability and effectiveness.
- **Iterative Design:** Gather user feedback, identify areas for improvement, and iterate on the design to refine the solution.
- **User Testing/Feedback Strategy:**
  - Conduct usability testing with target users to evaluate the solution's effectiveness and identify any usability issues.
  - Gather feedback through surveys, interviews, and focus groups to gain insights into user needs, preferences, and expectations.
  - Incorporate user feedback into the design process to enhance the solution's usability and user satisfaction.

## Site Map

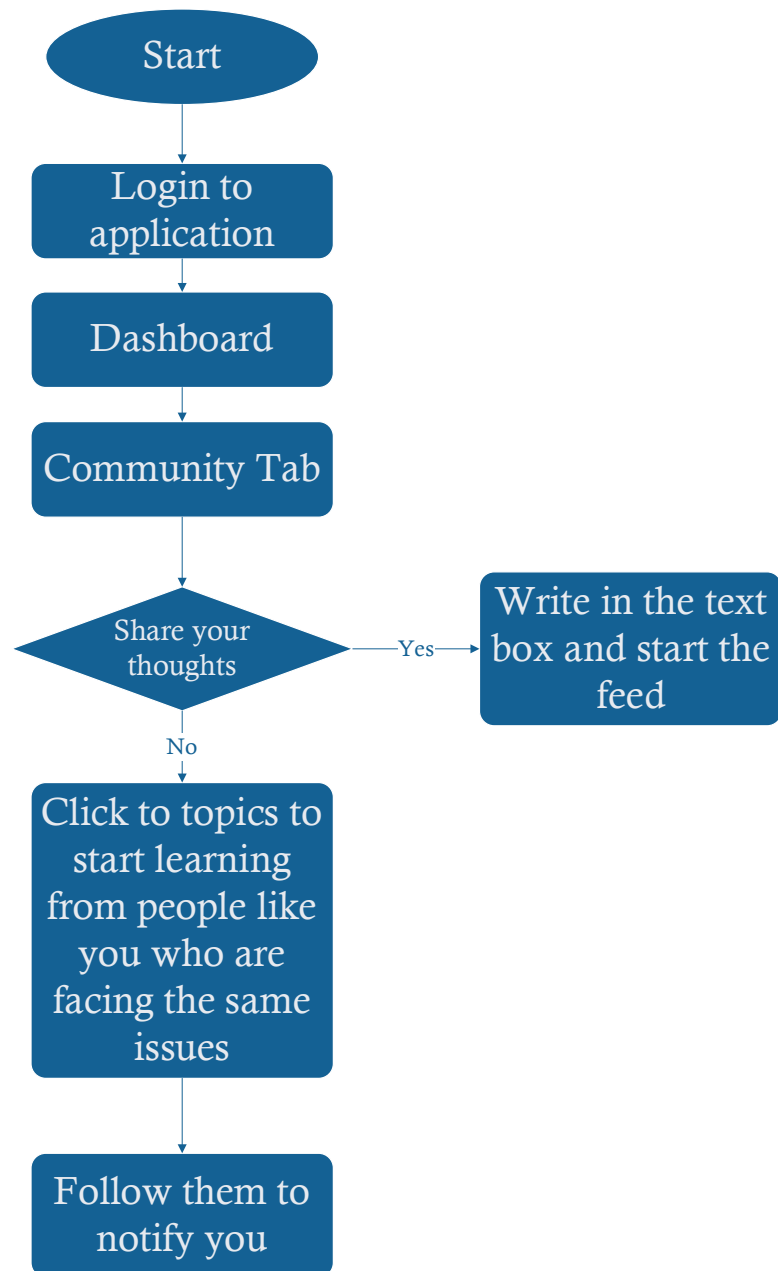


## Process Flow Diagram

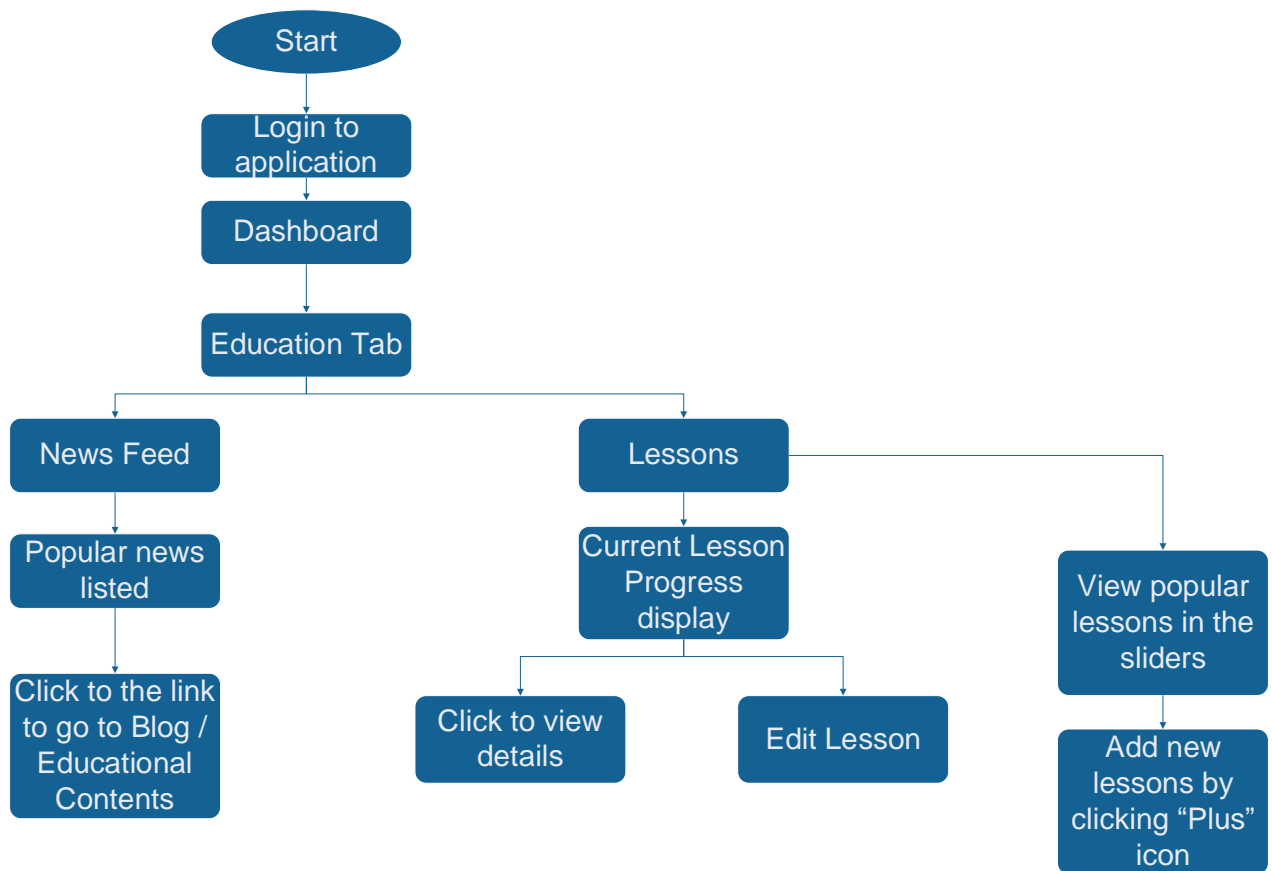
### Dashboard



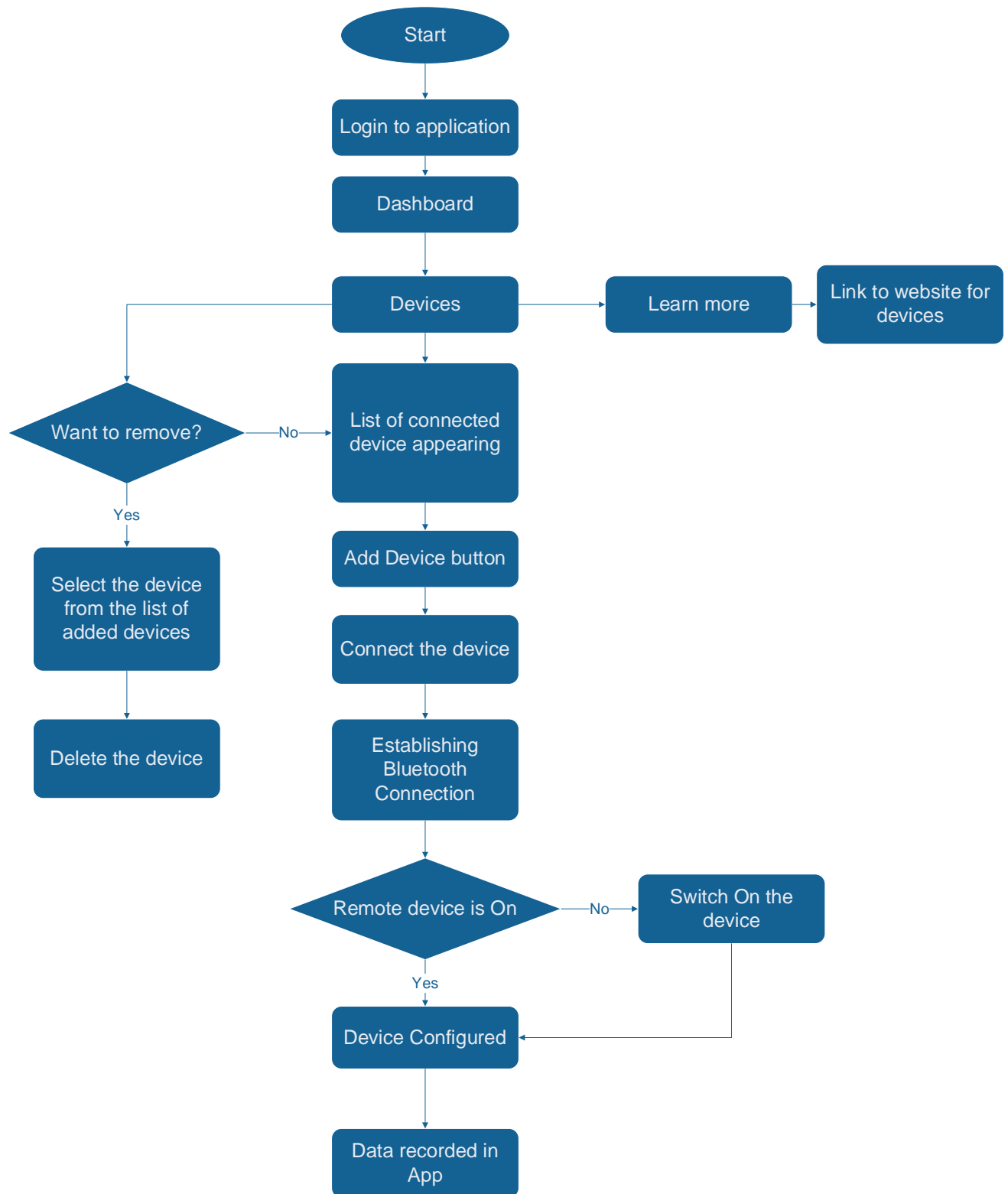
## Community Tab



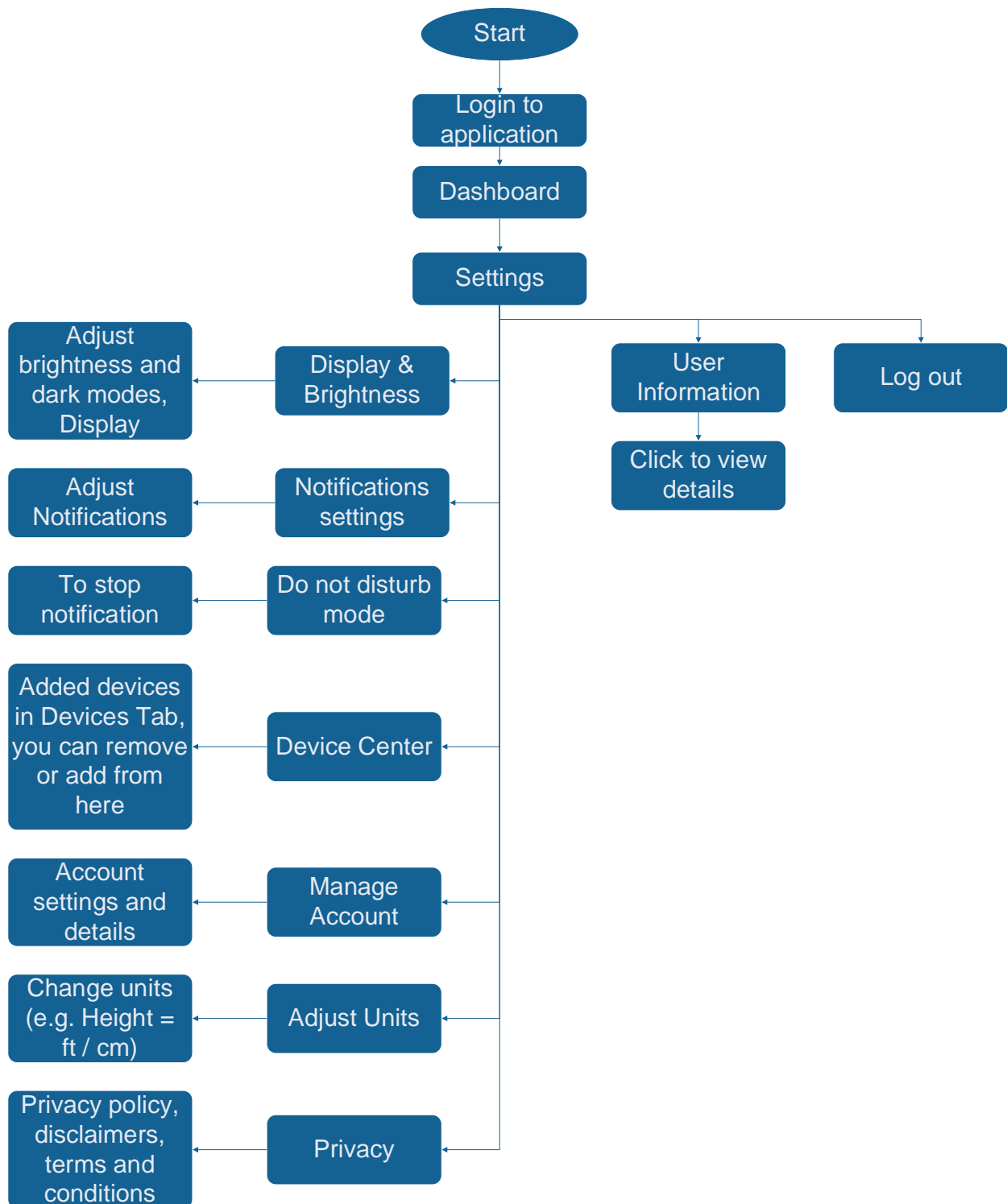
## Education Tab



## Devices Tab



## Profile Tab



# User Persona

## Persona 1: Sarah the Busy Professional

### Sarah

Busy Professional

#### Demographics

Age: 35 yrs.

Location: California, USA

Education: BS in Software Engineering

Job: Developer

Status: Married

#### Technology

IT & Internet

Software

Mobile Apps

Social Networks

#### Goals

- Reduce risks of obesity and cardiovascular conditions.
- A solution that fits into her busy schedule, provides easy-to-follow exercise routines and meal plans, and offers reminders and motivation to stay on track

#### Frustrations

Finds it difficult to prioritize her health due to time constraints and lack of knowledge about effective behavior change strategies.

#### Bio

Sarah is a 35-year-old professional working long hours in a demanding job. She leads a sedentary lifestyle and struggles to find time for exercise and healthy eating.

#### Frequently used apps


  



Balancing a demanding job and a healthy lifestyle, I'm determined to prioritize my well-being by finding a solution that fits my busy schedule, offers easy-to-follow routines and meal plans, and keeps me motivated.



Persona 2: Mark the Senior Citizen



### Mark

Senior Citizen

#### Demographics

Age: 70 yrs.

Location: Georgia, USA

Education: M.S. Business Administration

Job: Retired

#### Technology

IT & Internet

Software

Mobile Apps

Social Networks

#### Goals

- Mark wants to maintain stable blood sugar levels, manage his weight, and improve his overall health.
- Requires a solution that allows remote monitoring of his blood sugar levels and weight, provides personalized diet recommendations, and offers gentle exercise routines suitable for his condition.




#### Frustrations

Mark faces mobility limitations, technology literacy issues, and the need for ongoing support and motivation.

#### Bio


Mark is a 70-year-old retiree who lives alone. He has diabetes and arthritis, which affect his mobility and daily activities. He is motivated to manage his conditions effectively

#### Frequently used apps



"Embracing my senior years, I strive to manage my health effectively by utilizing remote monitoring, personalized diet guidance, and gentle exercises. It's never too late to prioritize self-care and well-being."

Persona 3: Emma the Young Parent



I want to prioritize my family's health, but I need guidance and resources that fit into our busy lifestyle and engage my children.

### Emma

House Wife

#### Demographics

Age: 30 yrs.

Location: San Diego, USA

Education: B.B.A

Job: House Wife

Status: Married

#### Goals

- Aims to prevent obesity in herself and her children by adopting healthy lifestyle habits.
- Requires a solution that offers family-friendly recipes, guidance on portion control, and interactive activities that involve her children.

#### Bio

Emma is a 30-year-old stay-at-home mom with two young children. She has a family history of obesity and wants to set a healthy example for her kids.

#### Technology

IT & Internet

Software


Mobile Apps

Social Networks


#### Frustrations

Emma struggles with time management, finding motivation, and navigating conflicting information about nutrition and exercise.

#### Frequently used apps



## Persona 4: James the Tech-Savvy Millennial



"I want a tech-savvy solution that seamlessly integrates with my devices, analyzes my data, and helps me make informed decisions to improve my overall well-being."

### James

Data Scientist

#### Demographics

Age: 25 yrs.  
Location: Ohio, USA  
Education: Data Engineering  
Job: Data Scientist  
Status: Un-married

#### Goals

- Aims to track his physical activity, sleep patterns, and stress levels, and make positive lifestyle changes to prevent chronic diseases.
- Requires a solution that integrates with his existing wearable devices, provides real-time data insights, and offers personalized recommendations for exercise, nutrition, and stress management.

#### Bio

James is a 25-year-old tech enthusiast who works remotely and spends a lot of time on his smartphone and wearable devices. He wants to optimize his health and well-being.






#### Technology

IT & Internet  
Software  
Mobile Apps  
Social Networks

#### Frustrations

James might face information overload and the need for meaningful insights from his data to drive behavior change.

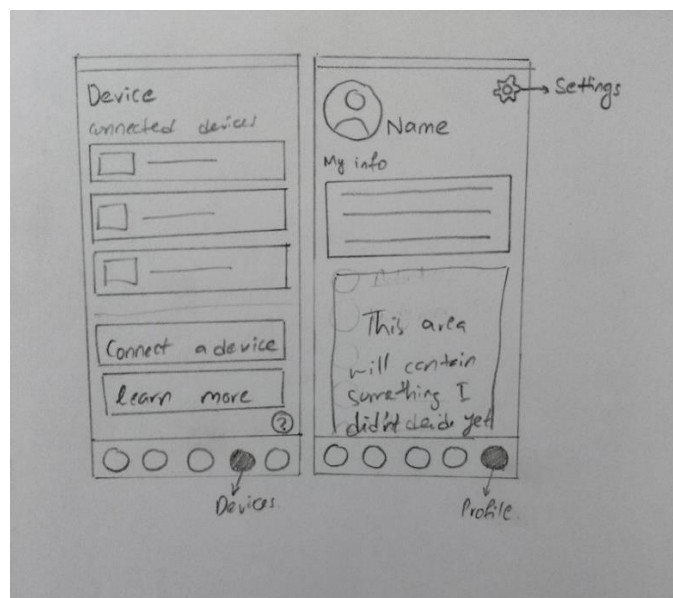
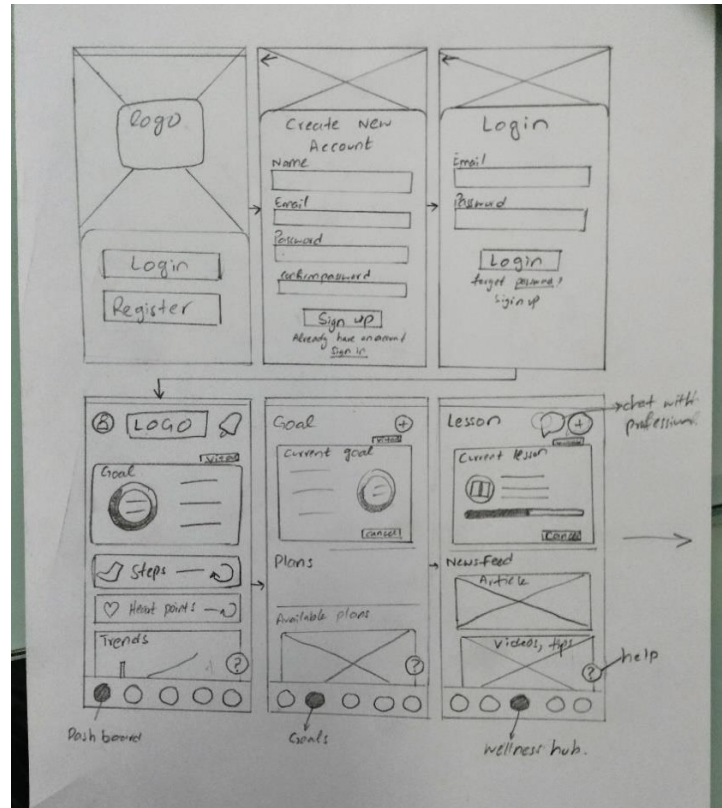
#### Frequently used apps

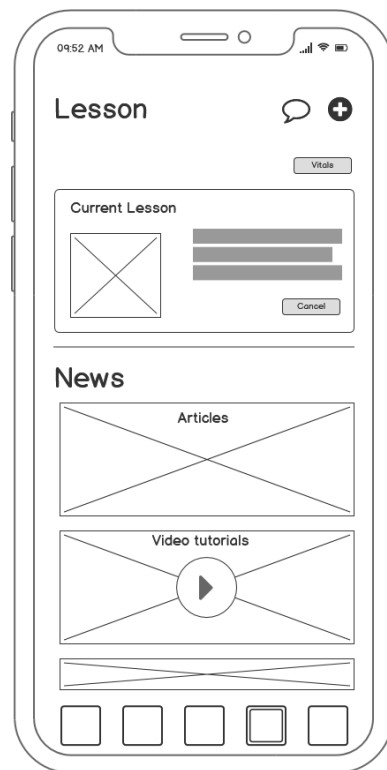
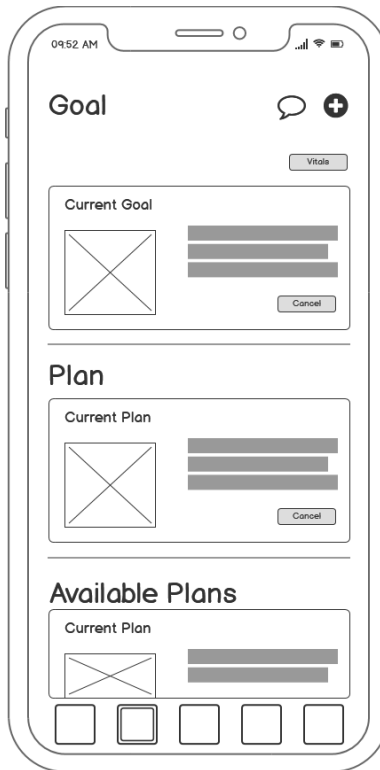
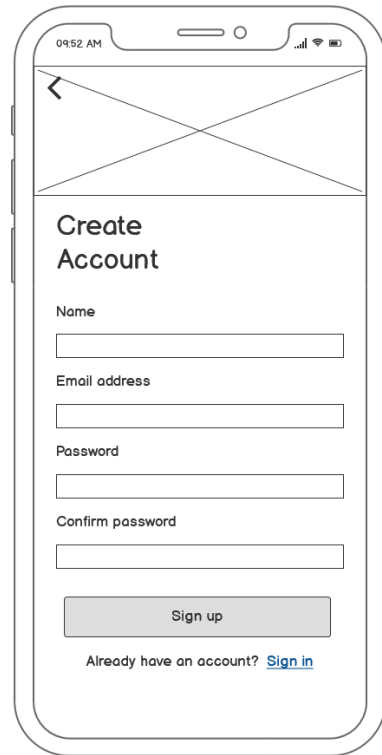
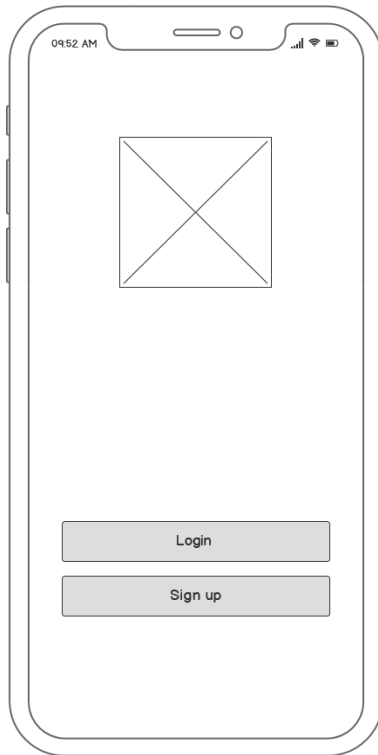
## Low Fidelity Wireframes

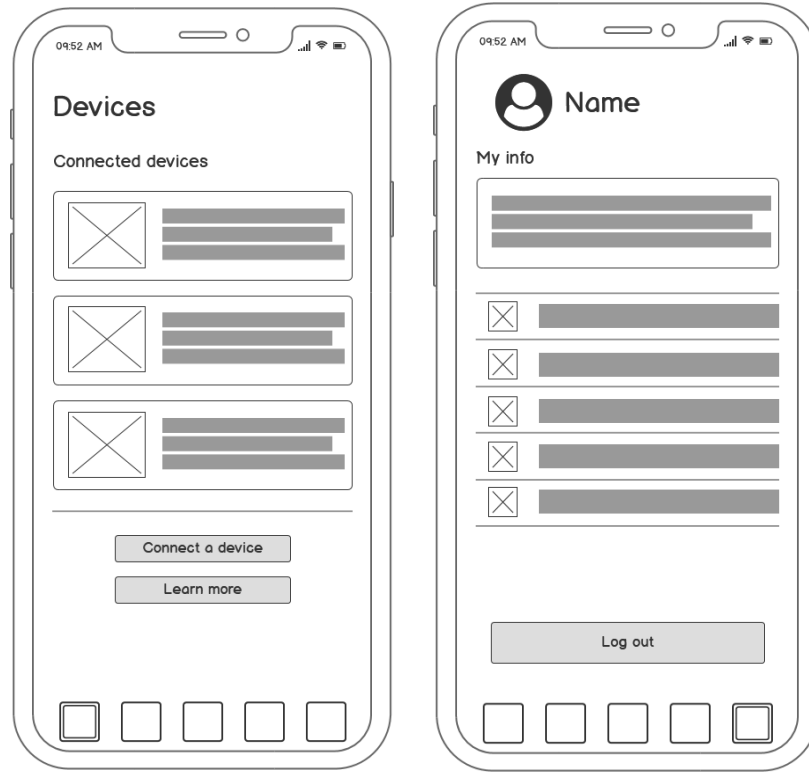
### Paper Wireframes

Using a prior application version as a starting point, I gathered insights from colleagues in the Business Analysis department and other teams. This holistic approach helped me refine the implementation of the solution by continuously incorporating feedback and iteratively enhancing the design based on diverse perspectives.



## Balsamiq Wireframes





## High Fidelity Wireframes:

Here is the link to file:

<https://www.figma.com/file/cSjXmc7St82uv0aJ8RPncf/Untitled?type=design&node-id=0-1&t=pFdC6W5Jpu8vxvaz-0>