Case Study #1: First USC SDG Choice: Good Health and Well-Being

A Case Study

Presented to the Faculty of the

Department of Computer, Information Sciences and Mathematics

University of San Carlos

In Partial Fulfillment

of the Requirements for the Course

CIS 2205 - DESIGN PROJECT

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IDEATION DOCUMENT
Contents:
1. **Introduction and Overview:**

The team selects and focuses on addressing the critical issues of Good Health and Well-Being in alignment with Sustainable Development Goals. The goal of the team is to revolve around the development of innovative solutions to promote physical and mental wellness, aiming to tackle the challenges associated with sedentary lifestyles.

In this portfolio, the team aims to address the challenge of promoting and facilitating a healthy lifestyle in today's fast-paced world. In today's fast-paced world, maintaining a healthy lifestyle can be challenging.

In order for this team to solve this problem, the team will create a system that hosts a virtual workout class that promotes body fitness which has a variety of choices of intensity that suit the user and also set workout strategies that with just a few clicks of a button and able to do the workout routines in the comfort of their own homes or dorms. This system is called VirtualFit, an innovative solution that aims to bridge the gap by providing convenient and customizable virtual workout experiences. The system offers a variety of workout intensities and styles, catering to individual preferences and needs, while also fostering a sense of community through group sessions.

2. **Problem Statement:**

The modern lifestyle often leads to neglecting health and well-being due to various factors such as sedentary habits, poor dietary choices, and high stress levels. The challenge is to provide accessible, convenient, and effective solutions to encourage individuals to adopt and maintain healthy habits. There is a need for innovative solutions that can address these challenges and promote a holistic approach to health and well-being.

VirtualFit seeks to address these challenges by providing an accessible, flexible, and engaging platform for students to prioritize their health and well-being. By offering a wide range of workout options and the flexibility to participate in solo or group sessions, VirtualFit aims to empower users to prioritize their health and well-being in a way that fits seamlessly into their daily lives.

The scope of VirtualFit encompasses the development of a system tailored to hosting virtual workout classes aimed at promoting body fitness among students, primarily focusing on the University of San Carlos Talamban campus. The system will provide a diverse range of workout options spanning various intensity levels and styles, catering to individual user preferences. Users will have the flexibility to choose between group sessions, allowing them to engage in real-time workouts with others or solo sessions for those who prefer to exercise

independently. The system may face limitations related to accessibility, personalization, motivation, and effectiveness. While efforts will be made to address these challenges, it's crucial to recognize and continuously work towards enhancing the app's features and user experience to maximize its impact on promoting good health and well-being among students.

3. **User Personas:**
   Persona 1:

   a. Demographic Information:
      ● Name: Sam Sulek
      ● Age: 21
      ● Gender: Male
      ● Occupation: Gym Instructor
      ● Income Level: Middle Class
      ● Location: Lahug, Cebu City
      ● Marital Status: Single
   b. Demographic Segmentation:
      Sam Sulek is a Cebuano born citizen who lives in Lahug, a barangay in Cebu, age of 21 years old, He works as a Gym Instructor at StayFit Box. He is single.
      These demographic segments provide a basic understanding of Sam's background, including his age, gender, occupation, income level, marital status, and location. This information helps in identifying his general characteristics and potential needs or preferences.
   c. Geographic Segmentation:
      ● Location: Lahug, Cebu City
   d. Psychographic Segmentation:
      ● Lifestyle: Active lifestyle, prioritizes health and fitness
      ● Values: Values of personal well-being, self-improvement, discipline, and helping others when they are struggling are a must

- Interests: Interested in sports, nutrition, fitness trends, and bodybuilding
- Attitudes: Positive attitude towards exercise, goal-oriented, motivated, and friendly
- Behaviors: Regularly participates in physical activities, follows a structured workout routine, may be interested in trying new fitness classes or techniques

e. Behavioral Segmentation:
- Gym Attendance: Regularly attends the gym multiple times weekly, usually 4 to 5 times a week.
- Fitness Routine: Follows a structured workout routine, including strength training, and calisthenics.

f. Persona Development:

Sam Sulek is a 21-year-old gym instructor from Lahug, Cebu City who usually goes to StayFit Box for his weekly exercise classes. He is always passionate about healthy living and having a good physical physique. He also teaches others, especially beginners passionately since he thinks of himself as a pillar for them to continue their goal of becoming a strong and healthy individual.

g. Goals and Pain Points:

Goals Points:
- Physical Fitness: Sam's primary goal is to enhance his physical fitness. This includes building muscle mass, improving strength and endurance, and achieving overall fitness.
- Health and Well-being: He aims to prioritize his health and well-being by maintaining an active lifestyle and making healthy choices in his diet and exercise regimen.
- Professional Growth: As a gym instructor, Sam is also focused on advancing his career in the fitness industry. He may aspire to expand his knowledge, gain certifications, or explore opportunities for career advancement.

Pain Points:
- Plateaus in Progress: Sam may experience frustration and demotivation when he reaches plateaus in his fitness journey, where he struggles to see further progress despite consistent effort.
- Balancing Work and Fitness: Juggling his role as a gym instructor with his personal fitness goals can be challenging for Sam. He may find it difficult to allocate time for his workouts while also fulfilling his responsibilities at work.
- Diet and Nutrition: Maintaining a balanced diet that supports his fitness goals can be a struggle for Sam, especially when faced with temptations or conflicting nutrition information.

- Time: Sam struggles to have to hold personal classes for people who live far away from him since he only commutes when traveling.
- Accommodation: Sam also struggles with having a limit on several people per session when a lot of people want to be taught by him, even if those people are not near him.

Persona 2:

a. Demographic Information:
  - Name: Kennedy Foremine
  - Age: 19
  - Gender: Male
  - Occupation: Student
  - Income Level: Allowance
  - Location: Guadalupe, Cebu City
  - Marital Status: Single
b. Demographic Segmentation:

   Kennedy Foremine is a Cebuano born citizen who lives in Guadalupe, a barangay in Cebu, age of 19 years old, He is a CS student studying in University of San Carlos, receiving daily allowance of 150 pesos to 200 pesos.

   These demographic segments provide a basic understanding of Lawrence's background, including his age, gender, occupation, income level, marital status, and location. This information helps in identifying his general characteristics and potential needs or preferences.
c. Geographic Segmentation
  - Location: Guadalupe, Cebu City
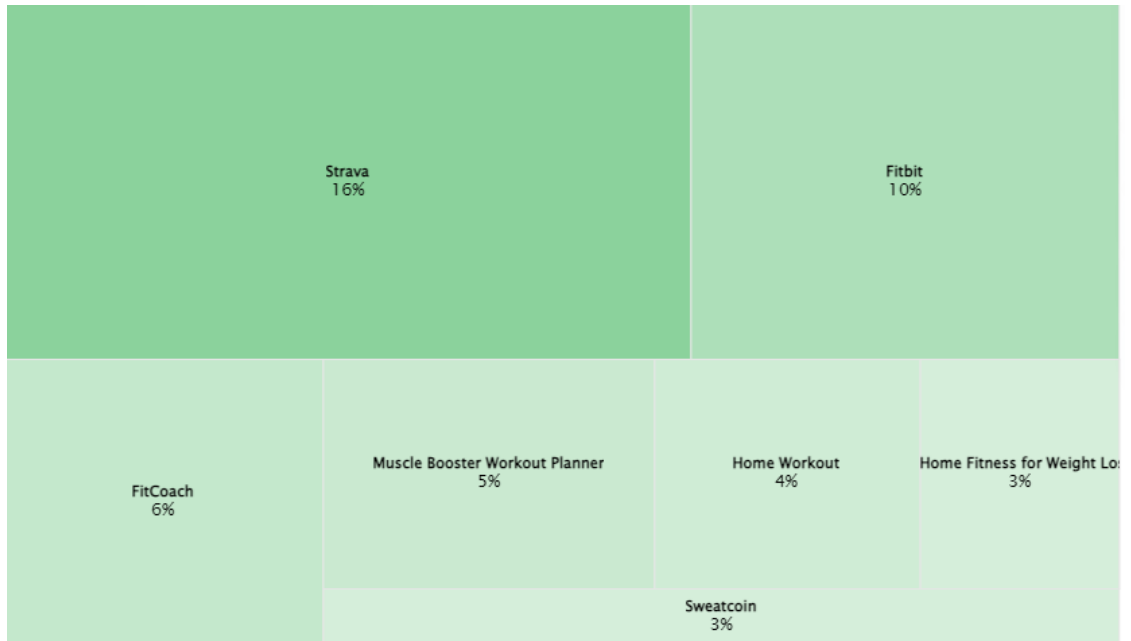d. Psychographic Segmentation:
  - Lifestyle: Passive lifestyle, Prefers to stay at home
  - Values: Honesty, Self-Improvement, Generosity and Kindness
  - Interests: Plays Video Games, Eats Junk Food, Painting
  - Attitudes: Optimistic, Easily getting down, needs more discipline

- Behaviors: Regularly participates in E-sports tournaments, likes to paint on free time, Having trouble dieting
e. Behavioral Segmentation:
   - Gaming Hours: Averages 4-6 hours a day of gaming sessions
   - Painting Sessions: Varies from time to time depending on his mood but can last up to 4 hours per session
   - Introverted: Doesn't really like a lot of human interaction and much prefers to be left alone.
f. Persona Development:
   Kennedy Foremine is a 19 year-old student from Guadalupe, Cebu City who is usually sitting around playing Valorant and other shooter games. He is recently concerned for his health and weight and wants to start exercising more. He is also a great artist and wants to pursue painting in the future.

   He usually doesn't move around playing video games which led to weight gain and is a bit introverted and doesn't like a lot of human interaction. He also doesn't frequent the gym and prefers to stay at home most of the time. Though introverted he is motivated to start exercising more preferably at the comfort of his home.
g. Goals and Pain Points:
   Goals Points:
   - Improving Lifestyle: Kennedy wants to improve his lifestyle health wise for him to be able to enjoy life a little bit better
   - Pursuing Dreams: Kennedy wants to improve his arts skills and hopefully get into an art school someday.
   - Balancing His Time: Due to his busy schedule as a student he wants to discipline himself in managing his time.
   Pain Points:
   - High Learning Curve: Since Kennedy is not used to exercise this will pose a big challenge for him, hopefully he may overcome this hill.
   - Breaking of Old Habits: Kennedy will succumb to old habits of excessive gaming and stress eating throughout this fitness journey he plans to embark.
   - Introverted Personality: Kennedy is not used to dealing with a lot of people hence he will have trouble talking to people or being around a lot of people most especially in gyms and fitness centers where there are lots of people working out.
   - Time Management: Kennedy also has trouble managing his time properly as a student, he still has responsibilities of studying while also playing video games on the side as well as painting in his free time.

- Limited Budget: Finding a gym or fitness center will be difficult for a student without much financial resources.
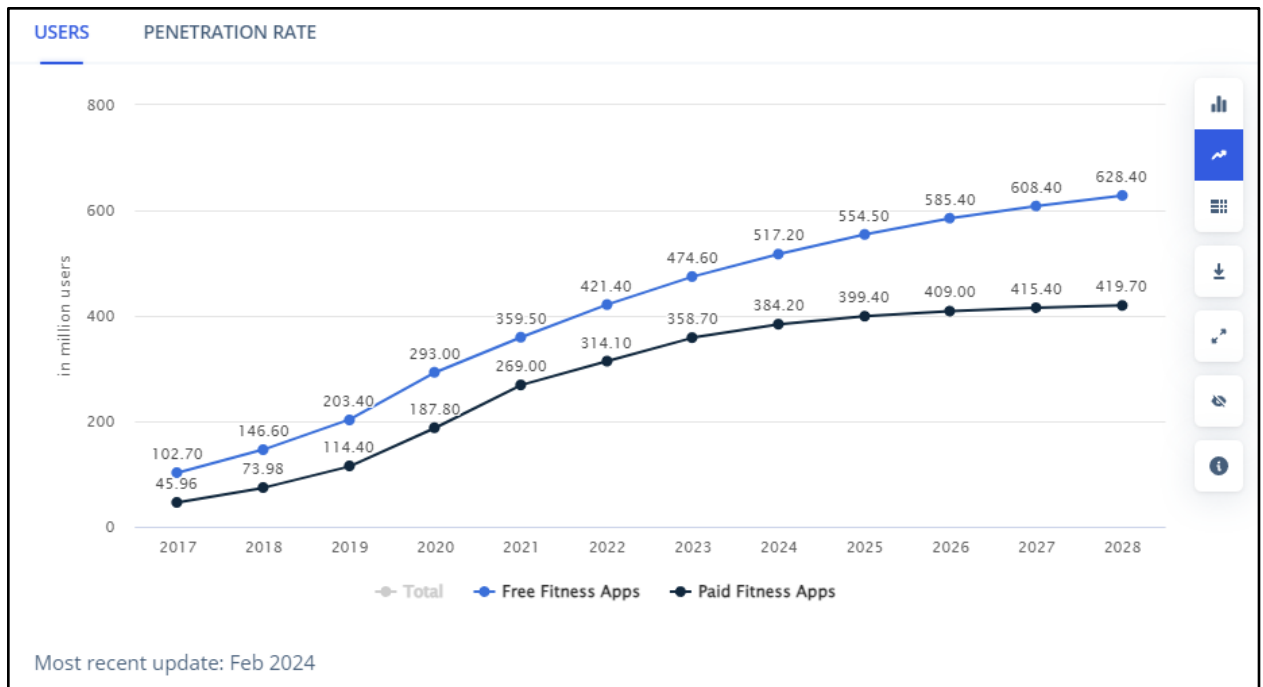
4. **Research Insights:**

The market for fitness applications is expected to reach $5 billion in revenue in 2023. The market is projected to grow at a compound annual growth rate (CAGR) of 14.96% from 2023 to 2028. This is all according to Statista, and also according to them the major key players for fitness applications are displayed below.

Strava
16%

Fitbit
10%

FitCoach
6%

Muscle Booster Workout Planner
5%

Home Workout
4%

Home Fitness for Weight Lo:
3%

Sweatcoin
3%

(Image from: https://www.statista.com/outlook/hmo/digital-health/digital-fitness-well-being/health-wellness-coaching/fitness-apps/worldwide#revenue)

With its growth rate, the number of users who use the free and paid versions of these fitness applications has also increased through the years. As seen in the graph   below:

USERS PENETRATION RATE

in million users

Year	Total	Free Fitness Apps	Paid Fitness Apps
2017	102.70		45.96
2018	146.60		73.98
2019	203.40		114.40
2020	293.00		187.80
2021	359.50		269.00
2022	421.40		314.10
2023	474.60		358.70
2024	517.20		384.20
2025	554.50		399.40
2026	585.40		409.00
2027	608.40		415.40
2028	628.40		419.70

Most recent update: Feb 2024

(Image from: https://www.statista.com/outlook/hmo/digital-health/digital-fitness-well-being/health-wellness-coaching/fitness-apps/worldwide#revenue)

The market of fitness applications is thriving, due to the rising interest in fitness and wellness among consumers or users of said applications. Customers prefer having something convenient and at the same time have personalized solutions like using the application to track workouts, set goals, and access training programs specified for them. The market growth is fueled by factors such as smartphone penetration, strong fitness cultures in some countries, an increase in disposable income in rising economies, and health awareness. Also, the COVID-19 pandemic accelerated the need for people to seek alternative ways to stay active during gym closures or restrictions.

Due to COVID-19, there were lockdown conditions due to which people had to stay at home. In addition, everyone was under quarantine which was applied to alleviate the additional risk of contracting this virus among individuals (Liu, 2022). Smartphone applications have started playing a significant role in society. They offer various home-based activities and provide a facility to stay fit and healthy while staying at home. Smart applications related to health and fitness are divided into disease management applications and behavioral change in health. Disease management appli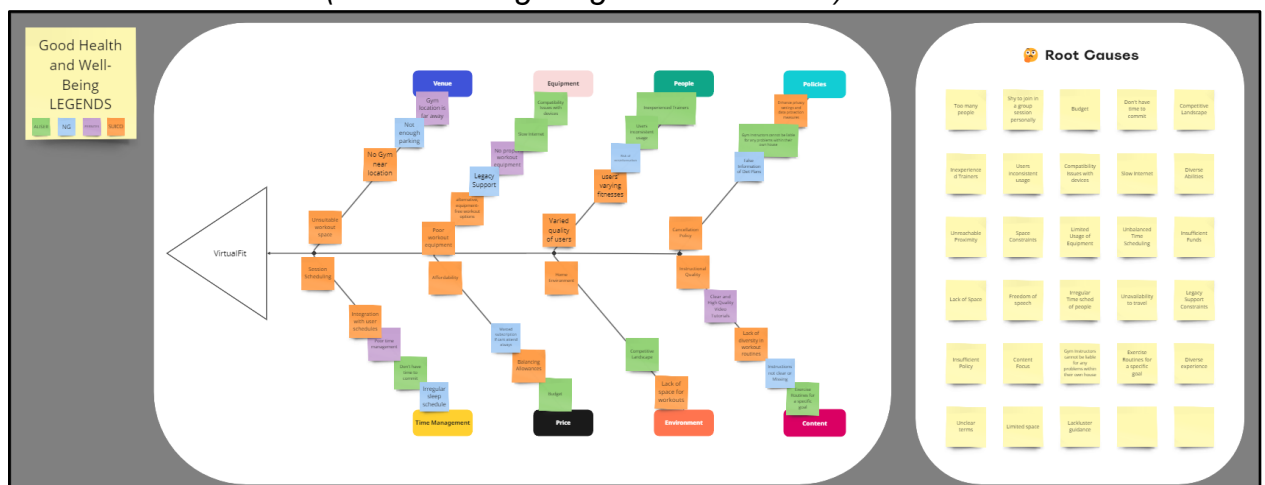cations are smart systems that help manage the patients' med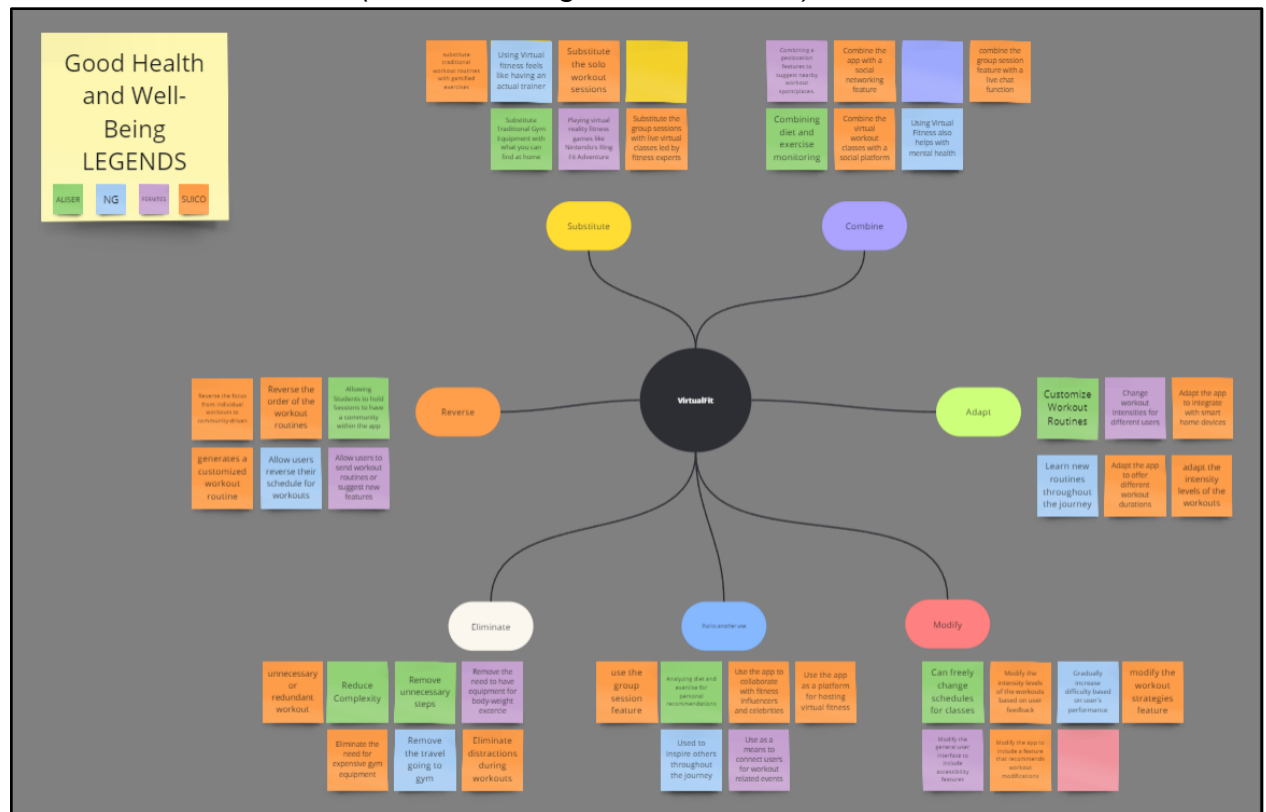ication and prevent any complications. Smart applications related to health and fitness are divided into disease management applications and behavioral change in health. Disease management applications are smart systems that help

manage the patients' medication and prevent any complications. These apps are designed to look at the patient's data and promote self-care.

A virtual fitness trainer app named TRAINIME has been developed to be used as one of the tools to teach exercise for fitness education programs (Nurullizam, 2021). The design and development process were guided by the motor learning theory and focused on the application of observation and random practice learning strategies in teaching fitness exercise. The app contains five virtual fitness trainers that show different movements that target different fitness levels. The effectiveness of the app in terms of the students' motivation is measured using the Situational Motivation Scale (SIMS) and tested with a group of 54 students from a local higher institute of learning. Their engagement with the activities is measured with a structured interview. The results showed that the students had the motivation to do fitness activities after being in the practice session with the virtual fitness trainers.

5. Inspiration Board:

(Visual Board for the inspiration of VirtualFit)

(Mind Map for VirtualFit)

6. **Brainstorming Session Outputs:**

VirtualFit Functionalities

Landing Page	Login Page	Register Page	Forget Password	Class Workout sessions	Join Workout Sessions
Diet Suggestion	Remove/Add Workout sessions	Feedback/ Ratings	Workout Reminders	Progress Tracking	Selection of Workout Templates
Chat Feature	Logout Page	Live Workout Session	Social Sharing	workout Suggestion	User Profiling
User Setting Page	Personalized Workout	Outdoor Activity Tracking	Video Tutorials	Adaptive Workout	Injury Prevention Warmup Routine
My Earnings Page	My Favorite Page	Calendar Page	Workout Videos	Trainers Page	Trainee Page
Chat rooms					

Good Health and Well-Being LEGENDS

ALISER NG PERNITES SUICO

(Brainstorming Diagram of VirtualFit)

(SCAMPER Diagram of VirtualFit)

7. Concept Sketches or Wireframes:
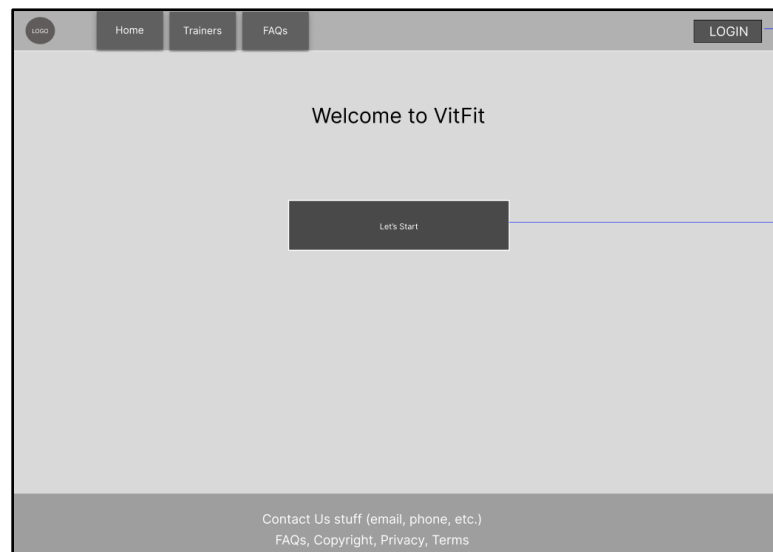
(Landing Page of VirtualFit)

This page, which is the landing page, welcomes the user once he/she goes to the website. There will be three buttons that will redirect them to specific pages
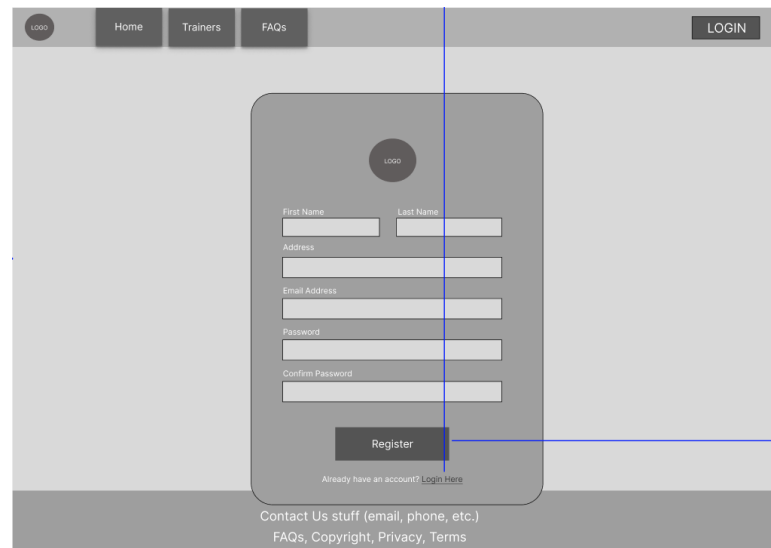
and a login button on the navbar. And in the body of the page is a button that redirects you to the signup page.

(Login Pop-Up Card of VirtualFit)

The login is a pop-up window wherein, once the user presses the login button, will display this window. The user must input the correct credentials such as email and password to log in to the website. If the user does not have an account, there is a button below the login button where the user can register an account.

(Register Pop-Up Card of VirtualFit)

The register is a pop-up window where the user clicks on the Register Here link in the login pop-up window. The user will enter valid user information, such as

First Name, Last Name, Address, Email Address, Password, to register into the web application. Once the user finishes entering all information and click on the Register button, it will register the user into the database and redirects the user to the home page.
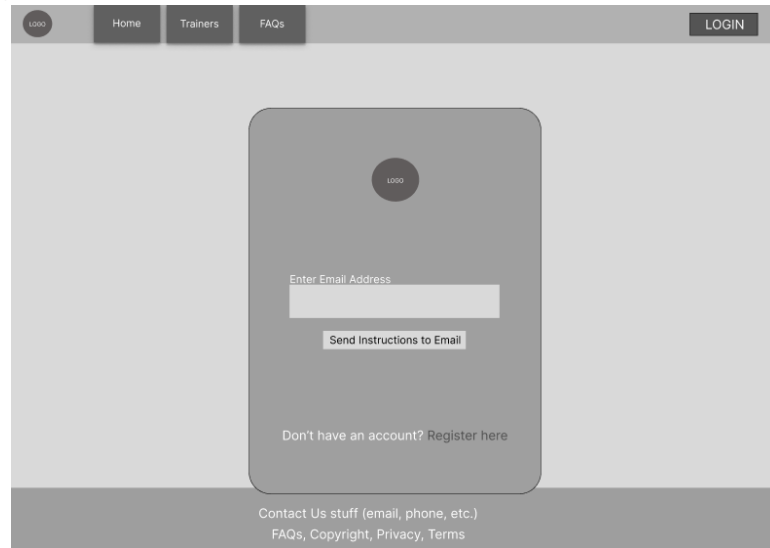
(Forget Password Pop-Up Card of VirtualFit)

The forget password page is similar to the login and register page, where it is also a pop-up window. Wherein the user will only need to input their respective emails to receive the steps to retrieve their account. There is also an option if the user wants to create another account, which is a link that will redirect you to the register or sign up page.
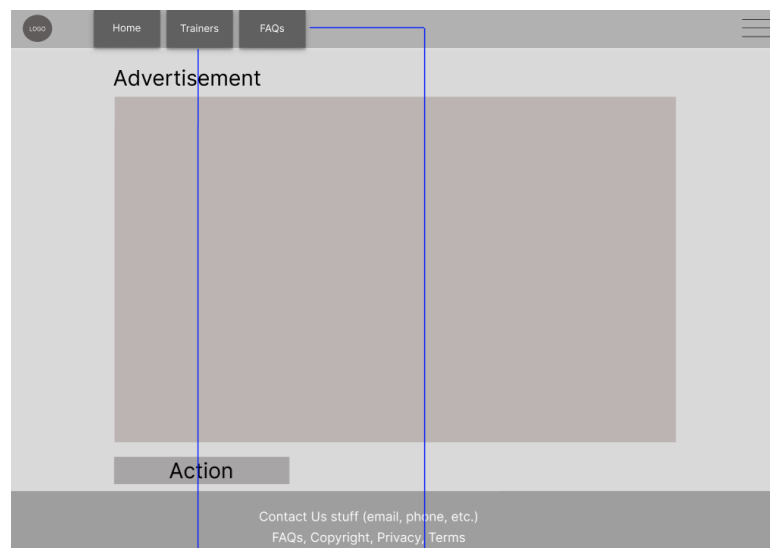
(Home Page of VirtualFit)

The homepage layout balances user navigation with clear menu options at the top, maximizes ad revenue with a central advertisement block, encourages user action with a dedicated call-to-action area, and provides necessary information in a discreet footer section for contact and legal details.
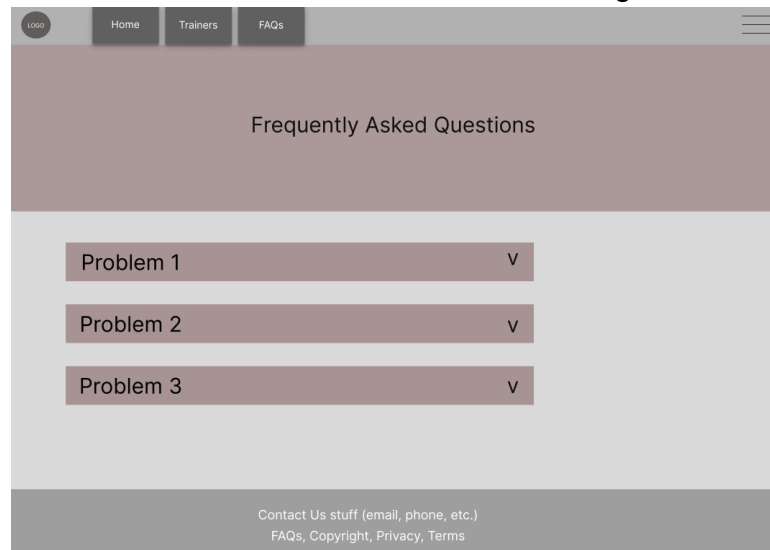
(FAQs Page of VirtualFit)

The Frequently Asked Questions (FAQs) page is where all the questions that are frequently asked by the users with the appropriate answers to those questions. This page has all the common questions that a new user often would ask about the website.
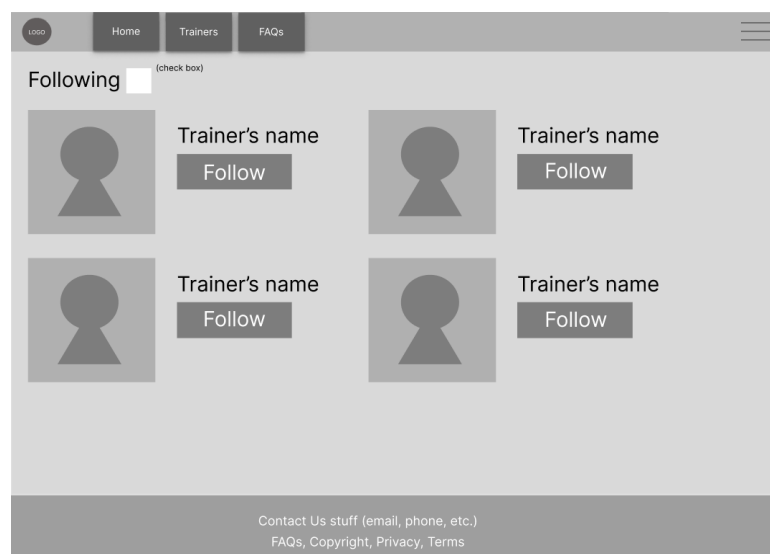
(Trainer's Page of VirtualFit)

The trainer page shows all the lists of available trainers and allows the user to view and/or follow their account to receive updates and notifications of the trainer's activity containing but not limited to workout plans, workout sessions, and diet plans.

Trainer's Functionalities:

(Trainer's Sidebar of VirtualFit)

The Trainer's sidebar was designed to cater to most of the functionalities of the website in just one area. It is to help user accessibility in the sense that all the functions the user wants to do are all in one place and can be accessible no matter where the user is on the website.

(My Workout Routines Page of VirtualFit)

This page allows trainers to create a workout plan and post it on his/her page for other people to see. It is designed to be configurable to each body part the user wants to work on


(My Diet Plan Page of VirtualFit)

The Diet Plan page is used to note down the user's diet per day which then calculates the total number of calories that all of the dishes that the user imputed per meal of the day. This would help measure the calorie intake most especially for users who want to limit or lower their calorie count per day.

(My Calendar Page of VirtualFit)

The calendar page is to help users keep track of what needs to be done today or what kind of workout session is coming up. The reasoning behind the calendar design is that it is easier to understand by the users rather than a typical list or card design.
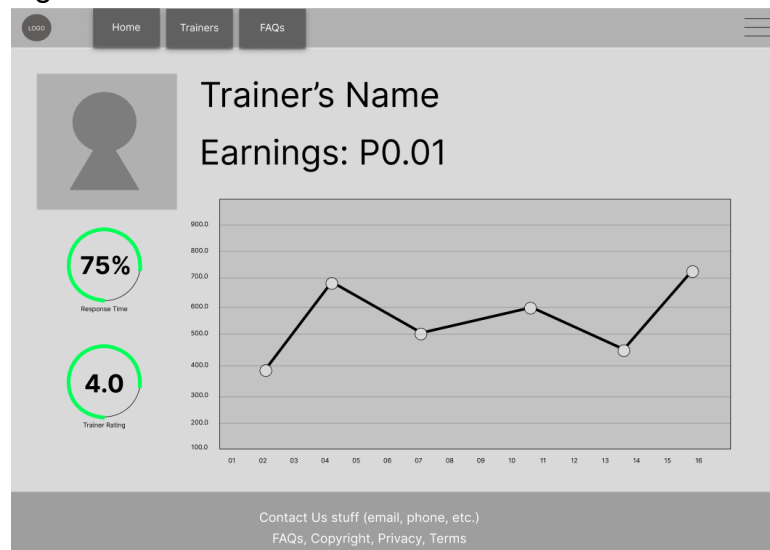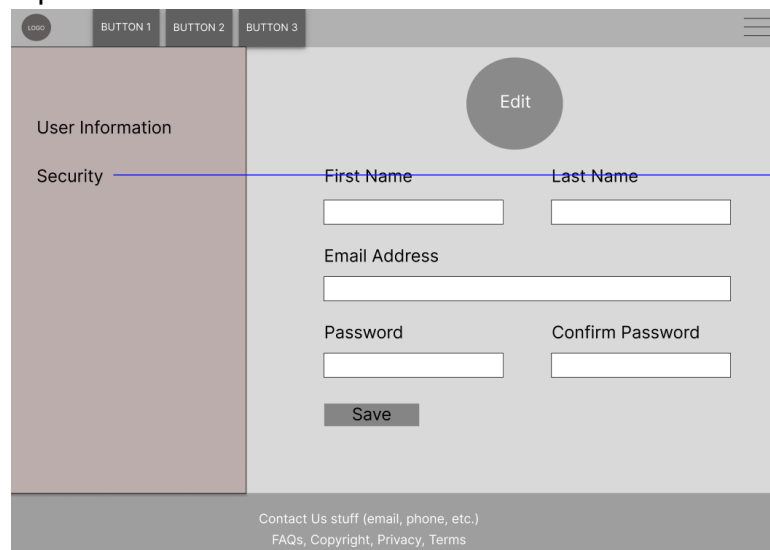

(My Earnings Page of VirtualFit)

The Earning Page displays the Trainer's earning from his/hers workout sessions, consultations, user subscriptions of their programs. It also displays the user rating on how good on their program that the trainees favored upon. It will connect to their online wallets to increase their income values.
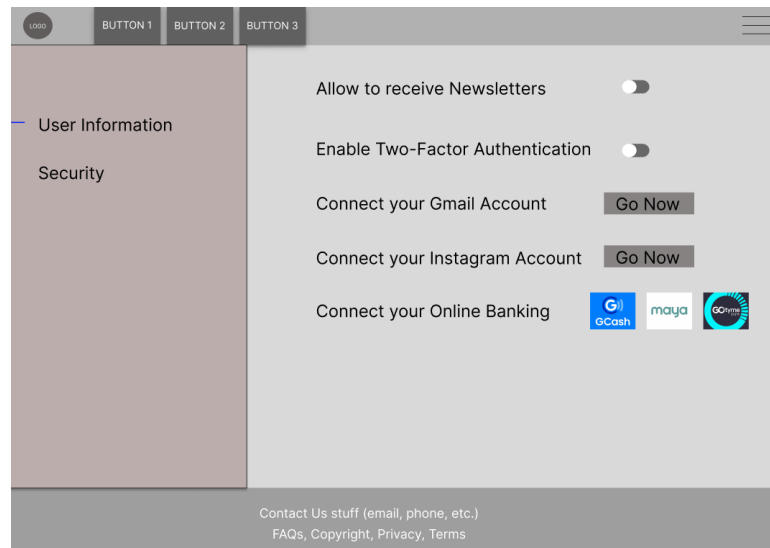
(User Setting Page - User Information of VirtualFit)

The user settings page is to allow users to adjust their personal info to what is needed. It is also a security feature allowing users to change their email addresses and passwords

(User Setting Page - User Security of VirtualFit)

On this page, the user can adjust the buttons to allow two-factor authentication and receive newsletters that are sent by the organization. At the same time, the user can connect their respective Gmail account and Instagram account. The user can connect to one of the available options for online banking for smoother transactions in the future.

Trainee's Functionalities:

(Trainee's Sidebar of VirtualFit)

The Trainee's sidebar was designed to cater to most of the functionalities of the website in just one area. It is to help user accessibility in the sense that all the functions the user wants to do are all in one place and can be accessible no matter where the user is on the website.

(My Workout Program of VirtualFit)

The Workout Program allows trainees to select their preferred workout plan from different workout routines posted by trainers. The trainees can select what parts of the body sections to set their workout routine. It is designed to be configurable to each body part the user wants to work on

(My Diet Plan Page of VirtualFit)

The Diet Plan page is used to note down the user's diet per day which then calculates the total number of calories that all of the dishes that the user imputed per meal of the day. This would help measure the calorie intake most especially for users who want to limit or lower their calorie count per day.

(My Favorites Page of VirtualFit)

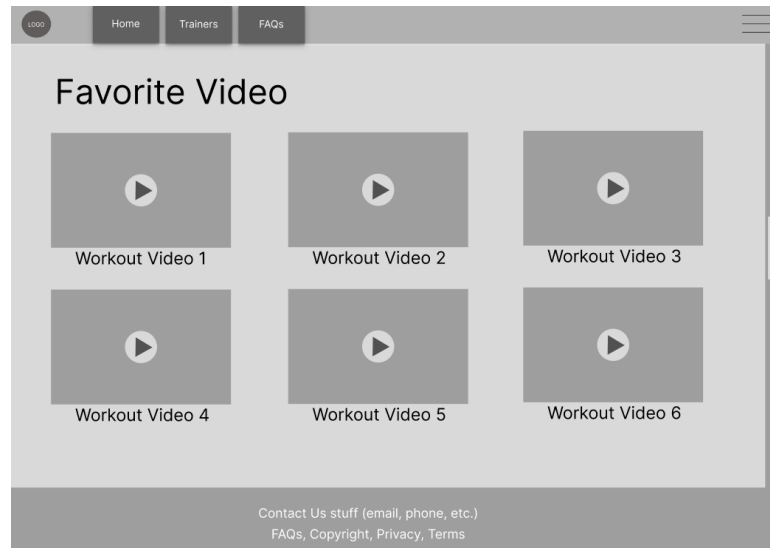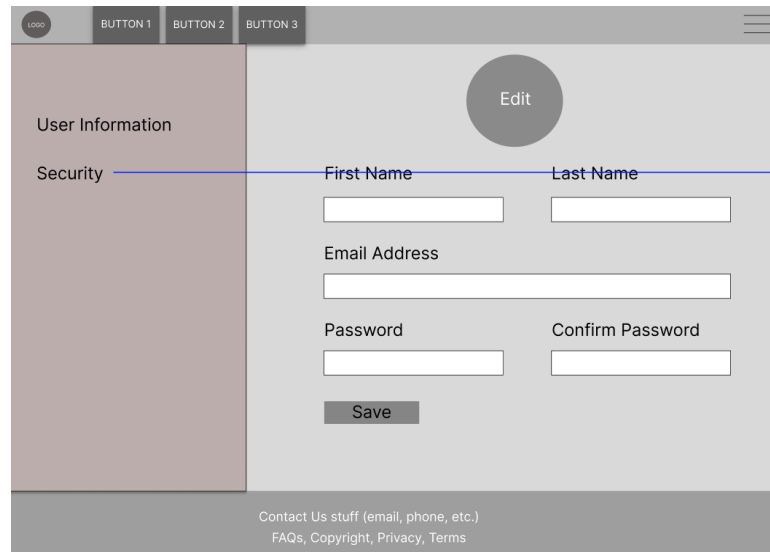This page allows users to view all their favorite workout videos and trainers in one area. It is to allow for customization of the user experience wherein they can customize their content viewing to better cater to their needs and tastes.
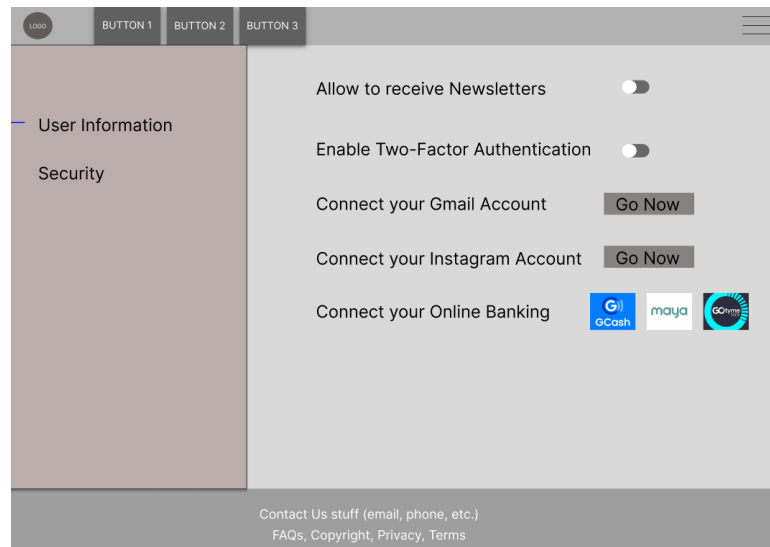

(My Calendar Page of VirtualFit)

The calendar page is to help users keep track of what needs to be done today or what kind of workout session is coming up. The reasoning behind the calendar design is that it is easier to understand by the users rather than a typical list or card design.

(User Setting Page - User Information of VirtualFit)

The user settings page is to allow users to adjust their personal info to what is needed. It is also a security feature allowing users to change their email addresses and passwords

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8. **Prototypes:**

For VirtualFit, we've developed an interactive prototype using Figma to demonstrate the app's functionalities. Users can navigate through the app seamlessly, exploring various workout options tailored to their fitness goals and preferences. The Figma prototype showcases clickable links and hotspot areas, providing users with an interactive experience to visualize the app's features and user interface.

VirtualFit Figma Link:
https://www.figma.com/file/9OWgRqP0VRtMufTwf8ZW73/VirtualFit-Wireframe?type=design&mode=design&t=73sejklqhCSnasTS-1

9. **Feedback and Iteration:**

SUICO's Feedback:

My feedback based on the progress of the idea of VirtualFit and processes presents a compelling concept with the system, aiming to address the critical issue of promoting good health and well-being in today's fast-paced world. The introduction sets the beginning of the development processes by highlighting the team's focus on developing innovative solutions aligned with Good Health and Well-Being, VirtualFit. The problem statement succinctly outlines the challenges individuals face in maintaining a healthy lifestyle, setting the context for VirtualFit's role in providing accessible and effective solutions.

The team performed research to gain insights supporting the viability of VirtualFit, indicating a growing demand for fitness applications driven by factors such as smartphone penetration and health awareness. The team conducted sessions by brainstorming outputs, and concept sketches offered a visual representation of VirtualFit's proposed features and functionalities. This ideation documentation created a solid foundation for the development of VirtualFit, but further refinement is needed to articulate a compelling value proposition and address specific user needs effectively.

ALISER's Feedback:

My feedback on the app is that it tackles the problem of physical health and fitness in the comfort of your home and time. It aimed to address the USC's Sustainable Development Goal (SDG), which is Good Health and Well-Being. The design is simple yet efficient and the user won't need too much time to understand how the application works. This goes for both the trainee and the trainer, it's very practical and functional at the same time straight to the point. Overall, the

application VirtualFit addresses specific users who seek to get a better physical physique and a healthier lifestyle with their busy schedules.

NG's Feedback:

My feedback on this app is that it tackles a very common problem on the limitation of a fit lifestyle of our common user. I believe that we were able to come up with a viable solution in tackling the selected SDG. This app will go a long way in the gym community, maybe even encourage others to join in and become more healthy. To conclude, the application VirtualFit is to help better the gym community and create a more welcoming environment towards any new trainees.

PERNITES's Feedback:

The app focuses on the problem that not everybody has the convenience and time to get into fitness. The Sustainable Development Goal (SDG) Goal 3 which is Good Health and Well-Being focuses on one's health and how to maintain and improve it. This app focuses on the improvement of one's lifestyle through fitness and exercise. This enables users to have an alternate way to improve their fitness through virtual means like virtual sessions or uploaded videos for their workout routines. In conclusion, the app provides a good alternative to people with limited schedules and those who are unable to find or have the time to go to their local gyms to improve their fitness.

10. Feasibility Assessment:

The Implementation of the VirtualFit System presents several feasible considerations encompassing technical, financial, and resource aspects. The team must ensure compatibility across different devices and browsers, implement secure user authentication mechanisms, and optimize performance to deliver a seamless user experience. Moreover, integrating features like workout planning, tracking, and user interaction necessitates robust backend infrastructure and proficient database management.

The VirtualFit's development requires budgetary allocations for software development tools and hosting services. Resource constraints, including time and human resources, pose challenges to VirtualFit's implementation. The project involves multiple stages, from conceptualization and design to development, testing, and deployment. Effective project management and resource allocation are crucial to ensure timely completion and adherence to project milestones. Furthermore, the team's composition of four members suggests potential limitations in manpower, necessitating efficient task delegation and coordination to optimize productivity and minimize bottlenecks.

Potential Challenges and Proposed Solutions:

- Technical Complexity: Developing a feature-rich web application like VirtualFit entails addressing various technical complexities, including frontend and backend development, database management, and integration of third-party APIs.
- Financial Sustainability: Ensuring VirtualFit's financial sustainability amidst ongoing operational costs and revenue generation is critical. To address this, the team can explore diverse revenue streams, such as subscription models, premium content offerings, or partnerships with fitness equipment manufacturers or wellness brands.
- User Engagement and Retention: Sustaining user engagement and retention is pivotal for VirtualFit's success. The team can enhance user experience through intuitive interface design, personalized content recommendations, and interactive features like progress tracking and community forums.
- Scalability and Performance: As VirtualFit garners traction and user adoption, ensuring scalability and performance become imperative to accommodate increasing user loads and maintain optimal system responsiveness.

11. Final Concept and Solution:

After thorough research, brainstorming, and iteration, the finalized concept for VirtualFit emerges as a comprehensive solution aimed at addressing the challenges associated with maintaining a healthy lifestyle in today's fast-paced world.

VirtualFit provides a user-friendly interface, featuring intuitive navigation and clear menu options for easy access to various functionalities. Users can participate in solo or group workout sessions, fostering a sense of community and accountability.

Users can participate in solo or group workout sessions, fostering a sense of community and accountability. Trainers play a crucial role in VirtualFit, offering personalized workout plans, diet recommendations, and guidance to help users achieve their fitness objectives.

12. Next Steps and Action Plan:

- Development: Initiate the development process, focusing on building the core functionalities of VirtualFit, including user authentication, workout scheduling, trainer profiles, and payment integration.
- Testing: Conduct thorough testing to ensure the functionality, usability, and performance of VirtualFit across different devices and platforms.

- Feedback Iteration: Gather feedback from beta testers and potential users to identify areas for improvement and iterate on the platform's design and features.
- Marketing and Launch: Develop a marketing strategy to promote VirtualFit and attract users, including social media campaigns, influencer partnerships, and targeted advertising.
- User Growth and Retention: Implement strategies to drive user growth and retention, such as referral programs, loyalty rewards, and continuous feature updates based on user feedback.
- Partnerships: Explore partnerships with fitness influencers, wellness brands, and educational institutions to expand VirtualFit's reach and enhance its value proposition.
- Monitoring and Optimization: Continuously monitor user engagement metrics, user feedback, and market trends to optimize VirtualFit's performance and relevance over time.

13. **Conclusion:**

In conclusion, the ideation process of VirtualFit presents a compelling solution to address the challenges associated with promoting good health and well-being in today's fast-paced world. The team's focus on developing an innovative platform that offers convenient and customizable virtual workout experiences aligns with the growing demand for fitness applications and reflects a strong commitment to supporting individuals in prioritizing their health.

By providing a variety of workout intensities and styles, VirtualFit caters to individual preferences and needs, aiming to empower users to maintain an active lifestyle in a way that fits seamlessly into their daily lives. The team should focus on developing core functionalities, conducting thorough testing, gathering feedback, and implementing effective marketing strategies to drive user growth and retention. Additionally, partnerships with fitness influencers, wellness brands, and educational institutions can help expand VirtualFit's reach and enhance its impact on promoting good health and well-being among users.

Overall, VirtualFit represents a promising solution that has the potential to make a significant impact on the lives of individuals by providing them with the tools and resources needed to prioritize their health and well-being.

14. **Appendix:**
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