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Department of Software  
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# FitNet

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**Course number:**

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# Introduction

With the growing interest in health and fitness in Saudi Arabia, it has become essential to provide innovative digital solutions that meet the needs of individuals interested in sports. FitNet App Development project aims to enhance the experience of members by offering a comprehensive platform that fulfills all their needs.

This application aligns with Saudi Vision 2030 in promoting a healthy lifestyle, providing advanced tools that help users achieve their fitness goals efficiently and seamlessly. It contributes to fostering a sports culture and making it an integral part of daily life.



# 1st Interview

Interview date : 28 January 2025

Name : AbdueLLah Abdulghani Almadani

Job : graduate of physiotherapy

Email : almaadaniabduLLah@gmail.com

Phone number : 0558003080

Q1 : What features do you think are essential in a gym app to support members in terms of physical therapy?

- As soon as a member enters the gym, the app can send notifications reminding them of essential practices, such as staying hydrated, warming up before workouts, and cooling down afterward, these reminders can significantly help in preventing serious injuries and aid in recovery. Many gym-goers tend to overlook these basics, and having automated alerts can keep them on track, ensuring they exercise safely and effectively.

Q2 : Do you think having a personalized recovery plan based on user data would be beneficial?

- Absolutely! A personalized recovery plan is highly beneficial from a therapeutic standpoint. The body needs adequate recovery time after a workout to be ready for the next session. This helps prevent injuries caused by muscle overuse and strain, which can become serious over time if not properly managed. Since every person's body is different--due to genetics, fitness levels, and training frequency--a one-size-fits-all approach isn't effective. The app could analyze user's activity and create a tailored recovery plan, differentiating between professional athletes who train daily and casual gym-goers who exercise less frequently.

Q3 : Is instant chat with a specialist better than scheduling an appointment?

- Both options complement each other. A live chat feature would be helpful for quick advice on exercises, immediate concerns, or minor discomforts during workouts. This would save time and money by offering instant guidance. However, if a user experiences persistent pain, muscle tightness, or any recurring discomfort, scheduling an in-depth consultation with a physical therapy specialist would be the better approach for proper assessment and treatment.

Q4 : What mistakes should be avoided when providing physical therapy guidance in the app?

- It is crucial that any advice given is based on the individual's physical condition. For example, factors like weight, height, daily activity level, and pre-existing health conditions should be considered. A physical therapy specialist should analyze the user's data to provide tailored guidance that promotes progress while minimizing injury risks. Generic, one-size-fit-all plans should be avoided since everyone's body responds differently to exercise and recovery.

Q5 : What is the most important feature for a fitness app focused on injury prevention and physical therapy?

- Constant reminders about warm-ups and cooldown, as well as alerts for common workout-related symptoms, are essential. The app could provide general advice on frequent pains or warning signs among athletes. If a user notices these symptoms, they could book an appointment for a check-up before the issue escalates into a serious problem.

In the end:

- The interview highlights the importance of personalization and smart notifications in a gym app, ensuring users stay hydrated and warm up properly to prevent injuries. A tailored recovery plan based on individual data helps optimize muscle recovery and reduce strain. Instant chat with specialists is valuable for quick guidance, while appointment booking remains essential for more serious concerns. To ensure effectiveness, recommendations should be based on accurate user data. Overall, focusing on customization, notifications, and expert consultations makes the app a powerful tool for enhancing user experience and injury prevention.

# 2nd Interview

Interview date : 30 January 2025

Name : Lama Suliman

Job : Weightlifting Coach

Email : lama21@gmail.com

Phone number : 0500005070

Q1 : In your opinion, what essential features should the app provide to offer intelligent recommendations that align with users' fitness goals?

- Essential features include step tracking, heart rate monitoring, and blood pressure measurement. If AI is integrated, it can send alerts when heart rate rises abnormally or issue emergency notifications if blood pressure increases excessively.

Q2 : Do you think a personalized training program based on user data would help them achieve their goals more effectively? Why?

- Yes, definitely! Entering personal data such as height, weight, health status, and desired goals would create a highly efficient training plan and make the app more user-friendly.

Q3 : In your opinion, do trainees prefer interacting with an AI assistant through a chat-based system, or do they lean towards entering their goals through a simple questionnaire?

- I think an AI assistant is better because it provides instant responses. Additionally, as goals and body measurements change, AI can make it easier to get accurate and updated recommendations.

Q4 : What are the most common mistakes an app might make when providing automated workout recommendations?

- Caloric calculations based on user input are often inaccurate. A better approach would be for the app to track walking distance, calorie burn, and overall activity level to generate more precise calorie recommendations.

Q5 : What is the most important feature to ensure that the AI system suggests accurate and suitable workout plans for each user?

- The most crucial feature is providing a weekly training plan along with a nutrition program tailored to the user's fitness goals.

In the end:

- The integration of AI in the gym app can significantly improve user experience, but certain challenges need to be addressed. Recommendation accuracy should be enhanced, particularly in calorie estimations and workout suitability. The AI interaction should be more seamless by using a chat-based assistant instead of requiring manual input. Additionally, incorporating safety features like emergency alerts for abnormal heart rate or blood pressure would be beneficial. Implementing machine learning to analyze user progress and adjust recommendations dynamically will further optimize the system. Addressing these aspects will create a more personalized, effective, and user-friendly fitness experience.

# 3rd Interview

Interview date : 31 January 2025

Name : Lian Al-Shmmari

Job : Certified Fitness Trainer

Email : lian.alshmmari@hotmail.com

Phone number : 0559004090

Q1 : How does technology help in fitness training and injury prevention?

- Technology has changed fitness a lot. Wearable devices track movement and heart rate, and smart apps help users improve their workouts. One of the biggest benefits is injury prevention. Real-time tracking can warn users if they are overtraining or doing exercises the wrong way. With good data, users can adjust their workouts to get better results and stay safe.

Q2 : Would AI-based workout recommendations in a gym app be useful?

- Yes, definitely! AI can study users' past workouts, movements, and progress to give them personalized workout plans. This is helpful to prevent injuries from overtraining. An AI system can act like a virtual coach, giving users advice based on their needs instead of general workout plans.

Q3 : How important is expert guidance in a fitness app?

- Getting advice from professional trainers or physiotherapists in a gym app is very important. AI and automation can give good tips, but real experts provide deeper insights. A great app should combine both—automated advice and one-on-one consultations—so users get the best support possible.

Q4 : What common mistakes should fitness apps avoid when giving injury prevention tips?

- One big mistake is giving general advice without considering things like age, fitness level, or past injuries. Another problem is recommending intense workouts without proper warm-ups and cooldowns. Also, sending too many notifications can annoy users instead of keeping them motivated.

Q5 : How can a fitness app help users improve performance without risking injury?

- A fitness app can improve performance by analyzing workout data and activity levels. It can suggest small changes to workout intensity so users can progress safely. The app can also send reminders for rest days and suggest recovery exercises like stretching or self-massage. A fatigue tracker can warn users when they need to slow down, reducing the risk of long-term injuries.

In the end:

- A fitness app can improve performance by analyzing workout data and activity levels. It can suggest small changes to workout intensity so users can progress safely. The app can also send reminders for rest days and suggest recovery exercises like stretching or self-massage. A fatigue tracker can warn users when they need to slow down, reducing the risk of long-term injuries.

# 4th Interview

Interview date : 31 January 2025

Name : Raghad AL\_hady

Job : Trainer

Email : raghadasiri200@gmail.com

Phone number : 0501592351

Q1 : What are the things that you think should be part of the app?

- first: the customer can subscribe online without visiting the branch.
- second: all payment methods are easily available via mobile.
- third: a barcode is available for customer entry instead of waiting at the door and ringing the bell.

Q2 : Are there any new features that need to be added? if so, what kind?

- Adding feature that shows if the branch is currently crowded or how many customers are inside to avoid congestion.

Q3 : Do you think the app's interface should have certain qualities?

- Yes, the app interface should be easy to use, simple, easy to navigate, with quick responsiveness and support for multiple languages.

Q4 : Does the app have features that need simplification or redesign to make them easier to use?

- No, at the moment, all features are clear and easy to use.

Q5 : Are there any features in other gym apps that, in your opinion, would benefit our users if they were available in our app?

- No, there are no additional features from other gym apps that I believe are necessary at the moment.

In the end:

- The app should include essential features such as online subscription, multiple payment methods, and a barcode for easy entry. It is also suggested to add a feature for monitoring crowd levels. The interface should be user-friendly and support multiple languages. The features should meet the user's needs.

# 5th Interview

Interview date : 31 January 2025

Name : Joud Alsobhi

Speciality : Human Resources

Email : joudsobhi2004@gmail.com

Phone number : 0560470554

Q1 : What qualifications do you expect for each sports field?

- I expect high-quality equipment, well-maintained surfaces, and proper safety measures.

Q2 : Do you think having a coach for each sport in the gym is an important addition? Why?

- Yes, definitely. A coach can provide guidance, correct mistakes, and help athletes improve their skills.

Having specialized coaches for each sport ensures that members get the best training experience and avoid injuries caused by improper techniques.

Q3 : Would it be easier for you if gyms partnered with tournaments?

- Yes, It would provide more opportunities to compete, improve, and measure progress against other athletes. It would also create a sense of motivation and community within the gym.

Q4 : What do you think if the gym's program offered easier ways for members interested in sports to communicate?

- That would be a great idea. It would make it easier to find training partners, join teams, and stay updated on events or competitions. A simple app or a group chat for each sport could help a lot.

Q5 : From your experience, what are the positive aspects you look forward to in implementing a new program for sports and fields?

- I'd expect better organization, improved scheduling, and a more structured approach to training. A new program could also introduce new opportunities like workshops, tournaments, and specialized training sessions, making the gym experience more engaging and beneficial.

In the end:

- An athlete's ideal gym focuses on facility quality, expert coaching, competitive opportunities, communication, and structured programs. Well-maintained sports fields and proper coaching enhance performance and prevent injuries. Tournament partnerships provide motivation, while better communication helps build a strong sports community. A structured program ensures organized training and growth. Combining these elements creates the perfect environment for athletes to improve and succeed.

# Task Table

Task	Name	ID
<u>1st Interview</u>	Sadeem Awak	2301922
<u>4th Interview</u>	Rimas Almuntashiri	2311631
<u>2nd Interview</u>	Raween Adel	2310849
<u>3rd Interview</u>	Razan Adil	2311703
<u>5th Interview</u>	Jana Khalid	2311055

# Content

FitNet is a smart fitness platform designed to improve users' workout experiences by utilizing data-driven insights. The goal of this project is to close the gap between standard fitness apps and personalized, AI-powered coaching.

The idea behind FitNet emerged due to the need for more interactive and adaptable fitness solutions. Many people face challenges such as lack of motivation, generic workout routines that don't suit their individual needs, and difficulty in tracking their progress effectively. By incorporating expert knowledge and user feedback, FitNet was developed to tackle these issues through smart recommendations, real-time performance tracking, and an engaging user experience.

With this platform, users will be able to:

- Follow personalized workout plans that align with their fitness objectives.
- Get AI-based recommendations that adjust to their progress and preferences.
- Stay motivated through real-time tracking and interactive features.
- Connect seamlessly with wearable devices for a more integrated fitness experience.
- Stay safe as much as possible from injuries and receive help from the physiotherapist available through the applicationj

By leveraging advanced technology, FitNet aims to transform how users approach fitness, making health and exercise more accessible, enjoyable, and effective.



# Motivation

## Why Did We Choose the FitNet Project Idea?



We chose FitNet because we noticed a growing need for digital fitness solutions that help people stay active and healthy. Many gym-goers struggle with finding the right training programs, preventing injuries, and staying motivated, so we wanted to create a platform that solves these problems in an easy and smart way.

1. Growing Demand for Digital Fitness Solutions As fitness becomes more popular in Saudi Arabia, we wanted to offer a modern and interactive app that makes workouts more effective. FitNet is designed to provide a complete fitness experience that supports users in achieving their goals.
2. Supporting Saudi Vision 2030 Our project aligns with Saudi Vision 2030, which promotes a healthier lifestyle. By using advanced technology, FitNet helps people stay fit, which supports the vision's goal of making sports and wellness a bigger part of everyday life.
3. Personalized Training Programs Everyone has different fitness levels and goals, so a one-size-fits-all program doesn't work. FitNet uses AI to analyze user data and create personalized workout plans that match each person's needs .
4. Using Technology to Improve Training & Prevent Injuries Many injuries happen because people overtrain or use the wrong techniques. FitNet helps by tracking real-time performance, sending alerts, and giving AI-based recommendations to make workouts safer .
5. Personalized Recovery Plans Based on User Data Recovery is just as important as training. FitNet offers custom recovery plans based on each user's fitness level, health status, and workout habits. This helps prevent injuries, improve muscle recovery, and keep users training effectively .

# Motivation

## 6. Physical Therapy Support with Reminders & Quick Consultations

Many injuries happen due to lack of warm-ups, improper hydration, or skipping cooldowns. FitNet helps prevent this by sending smart reminders and allowing instant chat with physiotherapists for quick advice on minor pain or discomfort.

## 7. Easy Appointment Scheduling with Experts

Some users need one-on-one guidance from personal trainers or physiotherapists. FitNet makes it easy to book appointments through the app, allowing users to get expert advice when they need it .

## 8. Combining AI & Human Expertise for the Best Experience

AI can provide instant recommendations, but expert trainers and physiotherapists give deeper insights. FitNet combines AI-powered training plans with real human guidance for a balanced and effective approach to fitness .

## 9. Improving Communication Between Athletes & Gyms

Many gym-goers struggle to connect with trainers or find workout partners. FitNet solves this by offering direct chat with trainers and group workout features, making training more engaging and interactive .



# Consideration

A major issue that many people encounter in their fitness journey is the lack of personalized workout plans. Both beginners and experienced individuals often struggle to find routines that match their unique goals, fitness levels, and preferences. Most fitness apps provide generic programs that do not adapt to the user's progress, making it hard to stay consistent and achieve meaningful results.

Why is this problem serious?

- Lack of Customization: Standard workout programs don't account for individual strengths, weaknesses, or preferences, which can lead to frustration and loss of motivation.
- Inefficient Workouts: Users may follow routines that aren't suited for them, leading to slow progress or even injuries.
- Low Engagement: Many users quit fitness apps because the workouts don't evolve based on their needs and progress.

How FitNet Solves This Issue

FitNet addresses this challenge by offering AI-powered smart workout suggestions that adapt based on the user's progress and goals. The platform provides:

- Personalized Training Plans: Workouts are tailored to each user's fitness level, past activities, and real-time progress.
- AI-Based Adjustments: If a user struggles with an exercise, the system suggests modifications or alternative exercises.
- Enhanced Motivation & Engagement: FitNet keeps users motivated by tracking their progress and providing feedback to ensure consistency.

By solving this key issue, FitNet delivers a customized and efficient workout experience, helping users stay committed and achieve their fitness goals.



# Goal

Our goal with FitNet is to help people reach their fitness goals through AI-driven recommendations, better communication, and injury prevention strategies. The app also offers personalized recovery plans and easy access to physical therapy consultations and expert guidance. This makes FitNet a complete fitness companion, fully aligned with Saudi Vision 2030, which focuses on promoting health and fitness in daily life.



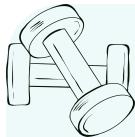
# Problem

The lack of personalized workout experiences in most fitness apps makes it challenging for users to stay engaged and reach their fitness objectives. The key problems include:

- Limited Personalization: Most fitness apps provide standardized workout routines that fail to account for users' unique fitness levels, preferences, and progress.
- Suboptimal Workouts: Users often follow routines that are not tailored to their specific needs, resulting in slow progress, unsatisfactory results, or potential injuries.
- Decreased Engagement and Retention: The absence of adaptive and interactive features leads to a loss of user interest, causing them to abandon the app before achieving significant progress.
  - Most fitness apps do not prioritize user safety, increasing the risk of injuries due to a lack of personalized guidance and real-time physiotherapy support.



# Findings



Through research and user feedback, the following issues were identified in existing fitness apps:

1. Generic Workout Plans – The majority of fitness apps fail to provide personalized workout routines tailored to individual needs, reducing their overall effectiveness.
2. Absence of Adaptive Adjustments – Most apps do not dynamically modify workout plans based on users' progress and performance, limiting their ability to achieve optimal results.
3. Poor Motivation Mechanisms – Absence of engaging features, such as real-time tracking, AI-driven recommendations, and wearable integration, results in low user retention.
4. Difficulty in Progress Tracking – Many apps do not provide clear, data-driven insights on user improvements, making it hard for individuals to assess their growth and adjust accordingly.
5. Existing fitness applications fail to offer integrated physiotherapy assistance, leaving users without professional guidance to prevent or address workout-related injuries.

These findings highlight the need for an intelligent fitness solution that adapts to users' needs and enhances their overall workout experience.

# Recommendations

## 1-Personalized AI-Powered Workout Plans

- Develop AI-driven algorithms to customize workout routines based on users' fitness levels, goals, and progress.
- Utilize user data such as age, weight, activity levels, and health objectives to generate dynamic training plans.

## 2-Adaptive Workout Adjustments

- Implement adaptive learning mechanisms that modify workout intensity and exercises in real-time based on user performance.
- Integrate wearable technology to track biometrics and adjust workout accordingly for optimal results.

## 3-Gamification & Motivation Enhancement

- Introduce motivational features like reward systems, weekly challenges, and social engagement to increase user retention.
- Use AI-driven recommendations to provide personalized encouragement and progress-based suggestions.
- Offer virtual coaching sessions where professional trainers can provide real-time guidance and motivation.

## 4-Advanced Progress Tracking & Analytics

- Develop interactive dashboard that display key performance metrics, such as calories burned, muscle growth, and workout consistency.
- Implement data-driven reports and visual analytics to help users track their progress and make informed decisions.

## 5-Integration of Physiotherapy Assistance

- Incorporate an AI-powered physiotherapy assistance that provides corrective feedback and injury prevention tips.
- Utilize motion analysis technology to detect incorrect movements and alert users before potential injuries occur.
- Offer interactive rehabilitation sessions to guide users in recovery and proper exercise execution.



# Costs & Schedule estimates

Phase	Description	Time	Cost
Specification	We established our service requirement and the constraints on the system operation and development 1-Requirements elicitation and analysis 2-Requirements specification 3-Requirements validation.	1 Week.	1000 SAR
Design and implementation	Converted the system specification into an executable system 1-design: design software structure 2-Implementation: translate this structure into an executable program.	10 Weeks.	25000 SAR
Validation	Verification and validation, intended to show that a system conforms its specification and meets the requirements.	3 Weeks.	10000 SAR
Evolution	Software is inherently flexible and can change	3 Weeks.	5000 SAR
			Total : 4 months and total cost is 41.000 SAR

# Task Table

Task	Name	ID
<u>Cost &amp; Schedule estimates</u>	Sadeem Awak	2301922
<u>Recommindations</u>	Rimas Almuntashiri	2311631
<u>Problem &amp; Findings</u>	Raween Adel	2310849
<u>Motivation &amp; goal</u>	Razan Adil	2311703
<u>Content &amp; Consideration</u>	Jana Khalid	2311055

# Problem Definition

Most fitness applications don't offer tailored training experiences, which lowers user engagement, makes sessions less effective, and raises the risk of injury. Among the main concerns are:

- 1– Limited Personalization: The majority of fitness applications provide general training schedules that don't take into account users' preferences, fitness levels, or advancement.
- 2– Suboptimal Workouts: Individuals may follow regimens that aren't tailored to their demands, which could result in injuries or delayed improvement.
- 3– Low Engagement & Retention: Users become disinterested before achieving their objectives when adaptive features and motivational mechanisms are lacking.
- 4– Absence of User Safety Measures: A lot of apps don't offer real-time physiotherapy assistance, which raises the possibility of getting hurt.

These difficulties underscore the need for a clever, flexible exercise solution that improves safety, engagement, and personalization.



# Scope Objectives of “new system”

FitNet is a smart fitness app that includes personalized workout plans, performance tracking with the user, and support for physical therapy. It features interactive elements and injury prevention analytics, enhancing a safer, more effective, and beneficial fitness experience.



# Alternative Solutions

Alternative solutions:

We might encounter two potential challenges during the development process, which are as follows:

1-Developing advanced AI requires vast amounts of data and complex processing.

As an alternative solution :

- Implementing smart questionnaires during sign-up to assess user goals and fitness levels, then recommending a tailored program.
- Providing pre-designed workout plans categorized by fitness level (Beginner, Intermediate, Advanced).
- Allowing trainers to manually input training plans that users can choose from.

2-Developing precise motion analysis algorithms requires advanced technology and 3D cameras.

As an alternative solution:

- Providing instructional videos for each exercise, demonstrating the correct form and common mistakes.
- Displaying real-time textual and visual guidance based on the user's selected exercise.
- Allowing users to record their workouts and submit them to a certified trainer for manual analysis.



# Costs of The 1st-Alternative

Phase	Description	Time	Cost
Specification	We established our service requirements and the constraints on the system operation and development 1-requirements elicitation and analysis 2-requirements specification 3-requirements validation	1 Week.	800 SAR
Design and implementation	converted the system specification into an executable system 1- design: design software structure 2- implementation: translate this structure into an executable program	8 Weeks.	20000 SAR
Validation	verification and validation , intended to show that a system conforms to its specification and meets the requirements	3 Weeks.	8000 SAR
Evolution	software is inherently flexible and can change.	3 Weeks.	4000 SAR
			Total : 4 months and total cost is 32800 SAR.



# Costs of The 2nd-Alternative

Phase	Description	Time	Cost
Specification	We established our service requirements and the constraints on the system operation and development 1-requirements elicitation and analysis 2-requirements specification 3-requirements validation	1 Week.	1000 SAR
Design and implementation	converted the system specification into an executable system 1- design: design software structure 2- implementation: translate this structure into an executable program	8 Weeks.	21000 SAR
Validation	verification and validation , intended to show that a system conforms to its specification and meets the requirements	3 Weeks.	9000 SAR
Evolution	software is inherently flexible and can change.	3 Weeks.	3000 SAR
			Total : 4 months and total cost is 34000 SAR.



# Benefits of Alternative Solutions

1-Solution 1:

- Reduces AI Development Costs: Avoids the need for high-end AI models and extensive data collection.
- Minimizes Computational Costs: Smart questionnaires require minimal processing power compared to AI-driven personalization.
- Faster Implementation: Ready-made plans accelerate time-to-market, reducing software development expenses.

3- solution 3:

- Eliminates Expensive Hardware Needs: No need for specialized motion sensors or cameras.
- Reduces AI Development Costs: Avoids the complexities of developing motion-tracking algorithms.
- Revenue Potential: Trainers can charge a fee for manual workout reviews, creating an additional revenue stream

By implementing these alternatives, we can drastically reduce technology development cost, minimize staffing expenses, and create new revenue streams—all while maintaining high-quality user experiences.



# Software Impacts



## 1.Improvements and Modifications:

- We will integrate AI to create personalized workout plans based on user input
- A real-time performance tracking feature will be added for better training using wearable devices
- The user interface will be improved to make it more interactive and easier to use
- Physiotherapy and Recovery Support, Users will get AI-generated recovery plans based on their workout intensity to avoid injuries.
- Subscription and Payment System, a built-in system will allow users to subscribe to premium features and pay easily.

## 2.Technical Requirements:

- Hardware: The system will need cloud servers to store and process data quickly.
- Software:
  - The app should work on both iOS and Android.
  - A strong database like MySQL will be used to save user data securely.
  - AI features will be developed using Python to analyze and process data.

# Software impacts

## 3. Security and Protection:

- User data will be encrypted to prevent any security risks.
- Two-Factor Authentication (2FA) will be used to keep user accounts safe.
- Biometric Login, support for Face ID & fingerprint login for added security.
- Cloud Backups, all user data will be backed up in a secure cloud environment to prevent loss.

## 4. Integration with Other Systems:

- The app will connect with fitness tracking devices like Apple Watch
- It will also support electronic payments through Apple Pay and STC Pay for easy subscriptions
- Trainer & Gym Collaboration, the app will allow gyms and personal trainers to manage clients, track progress, and provide workout plans.



# Potential Changes in the Organization

Once the FitNet application is developed and fully implemented, the organization will experience significant positive changes. Here are the key potential benefits:

## 1. Stronger Market Position

- The company will enter the smart fitness app market with a unique and advanced product.
- It will stand out from other fitness apps by offering AI-powered workouts, injury prevention, and expert support.
- More people will choose this app because it gives them personalized training and real-time guidance.

## 2. More Users and Better Engagement

- Since the app offers customized workouts, reminders, and expert advice, users will stay active and engaged.
- Features like challenges, rewards, and AI-based motivation will keep users coming back to the app.
- The app will help users track their progress and improvements, making workouts more fun and effective.

## 3. More Ways to Make Money

- The company can earn from subscriptions, where users pay for premium features like expert coaching.
- Partnering with gyms will allow them to use the app to manage their members.
- The company can also sell fitness data insights (anonymized) to sports brands, helping them improve their products.



# Potential Changes in the Organization



## 4. Easier and Faster Operations

- Since the app automates workout plans and health advice, the company won't need a big support team.
- AI will handle most user questions and recommendations, saving time and reducing costs.
- The company will get real-time data on user behavior, helping it improve the app and add better features.

## 5. Supporting Saudi Vision 2030

- The app helps people in Saudi Arabia stay fit and live healthier, which matches Saudi Vision 2030.
- The company could get support from government health initiatives, making it easier to grow and expand.
- The fitness tech industry is growing fast, and this app will help the company be a leader in this space.

## 6. Stronger Brand and More Trust

- Since the app offers real physiotherapy advice and injury prevention tips, users will trust it more.
- Unlike other apps with generic workouts, this one gives custom plans based on real user data.
- Happy users will recommend the app to others, bringing in more customers and growing the business.

## 7. Bigger Growth and Future Expansion

- The app can expand into new fitness areas, like yoga, weightlifting, and rehab training.
- Future updates could include VR workouts, AI-powered gym equipment, or smart home fitness tracking.
- The company can expand to other countries by adding multi-language support and localized fitness plans.

# Recommended Alternative of the course of Action

3rd selution.

Why is this the best solution?

This solution is ideal for physical therapy as it helps improve the accuracy of exercises through instructional videos and text guidelines, reducing errors patients may make during exercises. It also allows patients to perform exercises at home while receiving continuous feedback from specialists, enhancing accessibility and reducing the need for frequent clinic visits, which is especially helpful for those who find it difficult to visit clinics regularly.

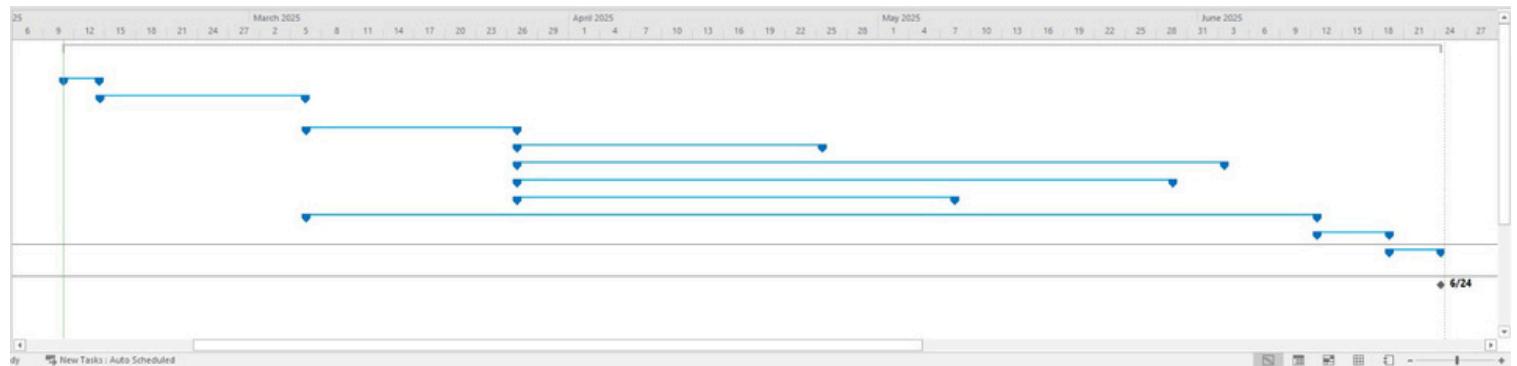
Additionally, the solution helps reduce costs by offering remote guidance instead of expensive in-clinic sessions. Continuous monitoring through videos enables therapists to assess patients' progress and provide personalized advice based on recorded movements, improving the effectiveness of treatment while minimizing mistakes.

The solution is practical and easy to implement, as it doesn't require specialized equipment or sensors, keeping costs low. It also allows for the customization of exercises for each patient based on their movements, reducing the risk of injuries caused by improper performance. Overall, this solution provides an efficient alternative to traditional physical therapy, improving healthcare quality while lowering costs and effort for both patients and therapists.



# Project plan

	<i>i</i>	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Add New Column
0		▶	Software Development	95.75 days	Tue 2/11/25	Tue 6/24/25			
1		▶	▷ Scope	3.5 days	Tue 2/11/25	Fri 2/14/25		Sadeem Awak	
7		▶	▷ Analysis/Software Requirements	14 days	Fri 2/14/25	Thu 3/6/25		Razan Adil, Jana Khalid	
17		▶	▷ Design	14.5 days	Thu 3/6/25	Wed 3/26/25		Raween Adel	
25		▶	▷ Development	21.75 days	Thu 3/27/25	Fri 4/25/25			
32		▶	▷ Testing	48.75 days	Thu 3/27/25	Tue 6/3/25		Raween Adel	
48		▶	▷ Training	45.75 days	Thu 3/27/25	Thu 5/29/25		Rimas Almontas	
57		▶	▷ Documentation	30.5 days	Thu 3/27/25	Thu 5/8/25			
67		▶	▷ Pilot	70.25 days	Thu 3/6/25	Thu 6/12/25		Sadeem Awak	
74		▶	▷ Deployment	5 days	Thu 6/12/25	Thu 6/19/25		Jana Khalid	
81		▶	▷ Post Implementation	3 days	Thu 6/19/25	Tue 6/24/25		Razan Adil	
86		▶	Software development template	0 days	Tue 6/24/25	Tue 6/24/25	85		



# Task Table

Task	Name	ID
<u>Alternative solutions &amp; Cost and Benefits of Alternative</u>	Sadeem Awak	2301922
<u>Recommended Alternative of the course of Action &amp; Project Plan</u>	Rimas Almuntashiri	2311631
<u>Problem Definition</u>	Raween Adel	2310849
<u>Scope Objectives of "new system" &amp; Software impacts</u>	Razan Adil	2311703
<u>Potential Changes in the Organization &amp; Software impacts</u>	Jana Khalid	2311055

# Stockholder Definition:

## A. The Client

(refers to the entity or individual who invests in the development of FitNet), such as:

- Saudi Vision 2030 health initiatives, if they financially support the project to promote fitness and well-being.
- Gym owners, who may collaborate with the app to integrate their services.
- Investors & Business Partners, funding the expansion or monetization of the app.
- Universities or Research Teams, supporting the project for academic or technological advancements.
- Tech Developers & AI Specialists, responsible for maintaining and improving the AI-driven features.

## B. The Customer

(the person intended to buy or use the FitNet app), such as:

- Gym members, looking for a personalized workout plan.
- Athletes and fitness enthusiasts, needing structured training programs.
- People recovering from injuries, using the app's physiotherapy support.
- Individuals aiming to stay fit, benefiting from AI-generated recommendations.
- Trainers & Coaches, who may purchase premium features for advanced tracking.

## C. Other Stakeholders

Other people or organizations affected by the product include:

- Trainers & Coaches, who use the app to track members' progress and provide recommendations.
- Physiotherapists & Health Experts, contributing to injury prevention features and recovery plans.
- Wearable Device Companies, integrating their products with the app for better tracking.
- Gyms & Sports Facilities, implementing FitNet as part of their services.
- Government & Health Organizations, if the app aligns with national health initiatives.
- Sports Brands & Fitness Equipment Companies, potentially partnering for sponsorships or data insights.



# The Current Situation

## A.Content:

The FitNet app is a smart fitness platform designed to enhance user experience by offering personalized workout plans, performance analysis, and direct support from specialists. The app aims to bridge the gap between traditional training methods and artificial intelligence, making it an excellent solution for fitness enthusiasts.

### Current Issues with Traditional Fitness Apps:

- Provide generalized workout plans that do not match users' fitness levels
- Rely on manual data entry without intelligent performance analysis
- Lack direct support from physical therapy specialists, increasing the risk of injuries
- Do not offer effective motivation to keep users engaged with their workouts.

### How Does FitNet Solve These Problems?

- Offers AI-powered personalized training programs that adapt to users' progress
- Supports integration with smart devices to track performance and analyze real-time activity
- Provides direct consultations with trainers and physical therapy experts to help prevent injuries
- Features a motivational system with challenges, achievements, and point-based rewards to ensure user engagement



# The Current Situation

## B.Motivation:

The FitNet app aims to address the shortcomings of traditional fitness applications through personalization, artificial intelligence, and realtime performance analysis. The key motivations behind its development include:

1. The need for personalized training programs – Most fitness apps offer generic workout plans that do not suit everyone, making it harder to achieve fitness goals.
2. Supporting Saudi Vision 2030 – Encouraging a healthier lifestyle through the use of technology.
3. Reducing injuries – Providing smart guidance and instant consultations with physical therapy specialists.
4. Enhancing consistency and motivation – Using challenges, rewards, and a point-based system to keep users engaged.
5. Integration with smart devices – Analyzing performance and offering real-time recommendations to improve workout efficiency.

FitNet makes fitness smarter, safer, and more engaging, helping users achieve their health and workout goals effectively.



# The Context Of The Work

## A.Content:



### 1. Personalized Workouts

- The app will create customized training plans using AI, adjusting them to each user's fitness level and goals.

### 2. Better Performance Tracking

- Smart devices like fitness watches will automatically track workouts, removing the need for users to enter data manually.

### 3. Lower Risk of Injuries

- Users will get guidance from physical therapy experts and AI suggestions to ensure they exercise safely and avoid injuries.

### 4. More Motivation & Engagement

- The app will include challenges, rewards, and achievements to keep users motivated and help them stick to their fitness plans.

### 5. Seamless Connection with Smart Devices

- FitNet will connect to devices like Apple Watch and Fitbit to give real-time feedback and performance insights.

### 6. Support for Saudi Vision 2030

- The app will promote a healthier lifestyle by using technology to encourage physical activity.

### 7. Easy Access to Fitness Experts

- Users can consult trainers and specialists online, eliminating the need for in-person meetings.

# The Context Of The Work

## B.Motivation:

After launching FitNet, the following upgrades can make the app even better:

### 1. AI-Powered Virtual Coach

- An AI assistant that provides voice or text guidance during workouts.

### 2. Injury Prevention Using Smart Tracking

- The app can analyze posture and movement using the phone camera and suggest corrections.

### 3. Nutrition & Diet Plans

- A feature that provides personalized meal plans based on fitness goals.

### 4. Social & Community Features

- Users can join fitness challenges, compete with friends, and share progress with others.

### 5. Multiple Languages & Localized Plans

- Support for different languages and region-specific workout programs.

### 6. Partnerships with Gyms & Companies

- Collaboration with gyms and businesses to provide customized fitness plans for employees and members.

### 7. Sync with AI Health Apps

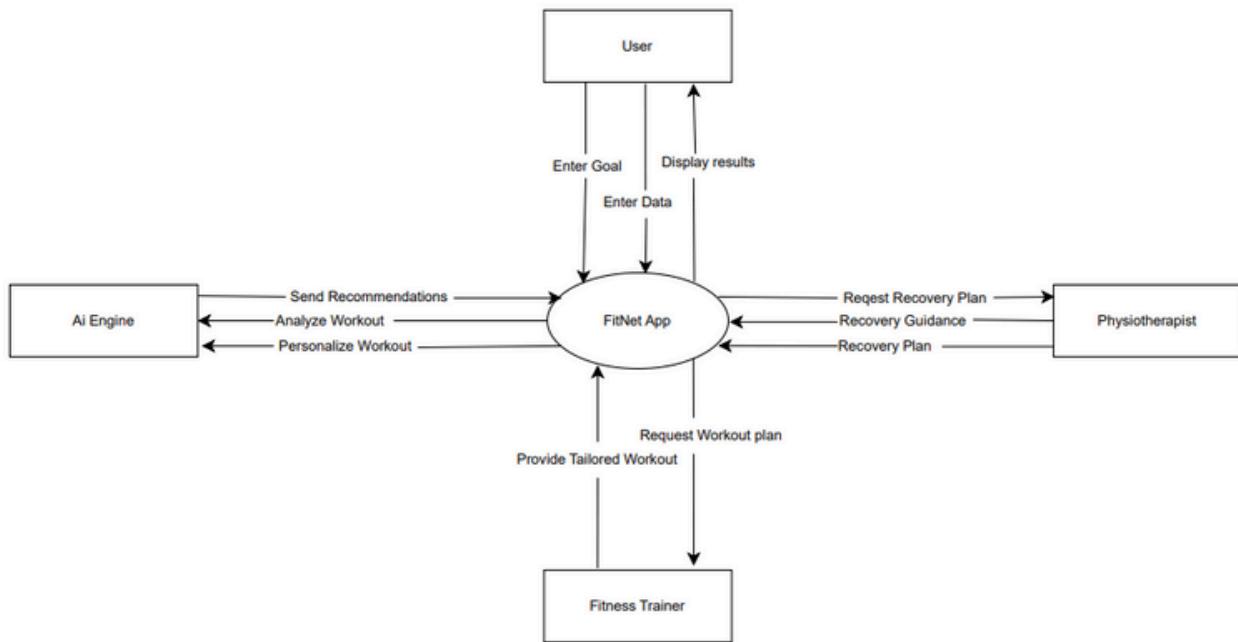
- Integration with Apple Health, Google Fit, and Samsung Health for complete health tracking.

### 8. Premium Membership Options

- Offering exclusive content, live coaching, and personalized analytics for paid users.



# Context Diagram



# Event Table

Event Name	Input	Output	Summary
Enter Goal	User's goal	Goal entry confirmation.	The user enters their personal fitness goal into the FitNet App.
Enter Personal Data	User's fitness data	Data entry confirmation.	The user inputs their personal fitness data into the app.
Display Results	Request to display results	Analysis results	The app displays the analysis results of workouts and progress.
Send Recommendations	Workout analysis	Personalized recommendations	The AI Engine customizes workout recommendations based on analysis.
Personalize Workout	User's fitness data	Personalized workout	The AI Engine customizes workout recommendations based on user data.
Request Workout Plan	Workout plan request	Workout plan	The app requests a tailored workout plan from a fitness trainer.

# Event Table

Event Name	Input	Output	Summary
Provide Workout Plan	Workout plan	Plan delivery confirmation	The fitness trainer provides the requested tailored workout plan.
Request Recovery Plan	Recovery plan request	Recovery Plan	The app requests a recovery plan from the physiotherapist.
Provide Recovery Plan	Recovery plan	Plan delivery confirmation	The physiotherapist provides the recovery plan for the user's recovery.
Request Recovery Guidance	Guidance Request	Recovery Guidance	The app requests recovery guidance from the physiotherapist.
Provide Recovery Guidance	Recovery guidance request	Recovery guidance	The physiotherapist provides guidance to support the user's recovery process.

# Task Table

Task	Name	ID
<u>Context Diagram</u>	Sadeem Awak	2301922
<u>Event Table</u>	Rimas Almuntashiri	2311631
<u>Stockholder Definition</u>	Raween Adel	2310849
<u>The Current Situation</u>	Razan Adil	2311703
<u>The Context Of The Work</u>	Jana Khalid	2311055

# Functional Requirements

ID	Requirement Definition	Description
FR1	Create account	Users should be able to create an account using their email or phone number and verify it with an OTP.
FR2	Log in	The system should allow users to log in using their email/phone number and password, with optional 2FA authentication.
FR3	Generate plan	The app should generate customized workout plans based on user data such as height, weight, fitness level, and goals. The AI should analyze progress and adjust workouts accordingly.
FR4	Track performance	The app should generate customized workout plans based on user data such as height, weight, fitness level, and goals. The AI should analyze progress and adjust workouts accordingly.

# Functional Requirements

ID	Requirement Definition	Description
FR5	Provide recommendation	The system should provide smart notifications, including reminders for warm-ups, hydration, and rest. Alerts should be sent for abnormal heart rate detection or incorrect exercise performance.
FR6	Offer physical therapy	The app should allow live chat with physiotherapists for quick consultations and offer a personalized recovery plan based on user activities and workout types.
FR7	Send alert	Users should receive notifications for reaching their fitness goals and alerts for muscle fatigue symptoms or required rest days.
FR8	Payment process	The app should support electronic payments through Apple Pay and STC Pay, allowing users to complete transactions quickly and securely.

# Functional Requirements

ID	Requirement Definition	Description
FR9	Social Interaction	The system should enable users to communicate with trainers, discuss fitness goals, and join a fitness community to share progress and motivation.
FR10	Support languages	The application should support multiple languages, including English and Arabic, for an enhanced user experience.
FR11	Subscription process	Users can subscribe to monthly or yearly plans to access premium features, with the system managing renewals automatically.
FR12	AI Engine	The AI Engine analyzes user data to create and adjust personalized workout and recovery plans. It provides real-time recommendations, safety alerts, and supports live chat with specialists to enhance performance, prevent injuries, and ensure a smart, adaptive fitness experience.

# Non-Functional Requirements for The Hardware Interface

ID	Requirement Definition	Description
HI1	Compatibility	Supports iOS 13+, Android 8.0+, and smartwatches.
HI2	Connectivity	Integrates with fitness devices via Bluetooth and Wi-Fi.
HI3	Efficiency	Uses ≤5% CPU and ≤100MB RAM for smooth performance.

# Non-Functional Requirements for The User Interface

ID	Requirement Definition	Description
UI1	Consistency	Uniform colors, fonts, and layouts across all screens.
UI2	Speed	UI elements should load within 2 seconds.
UI3	Feedback	Clear error messages and real-time user guidance.

# Non-Functional Requirements for The Software Interface

ID	Requirement Definition	Description
SI1	Database Interface	The System shall use a MySQL relational database to store user profiles, workout plans, progress tracking, and fitness statistics.
SI2	User Authentication and Security Interface	The system shall implement JWT (JSON Web Tokens) for secure user authentication.
SI3	Wearable Device Integration	The system shall connect with Bluetooth-enabled smart fitness devices to track workout performance.

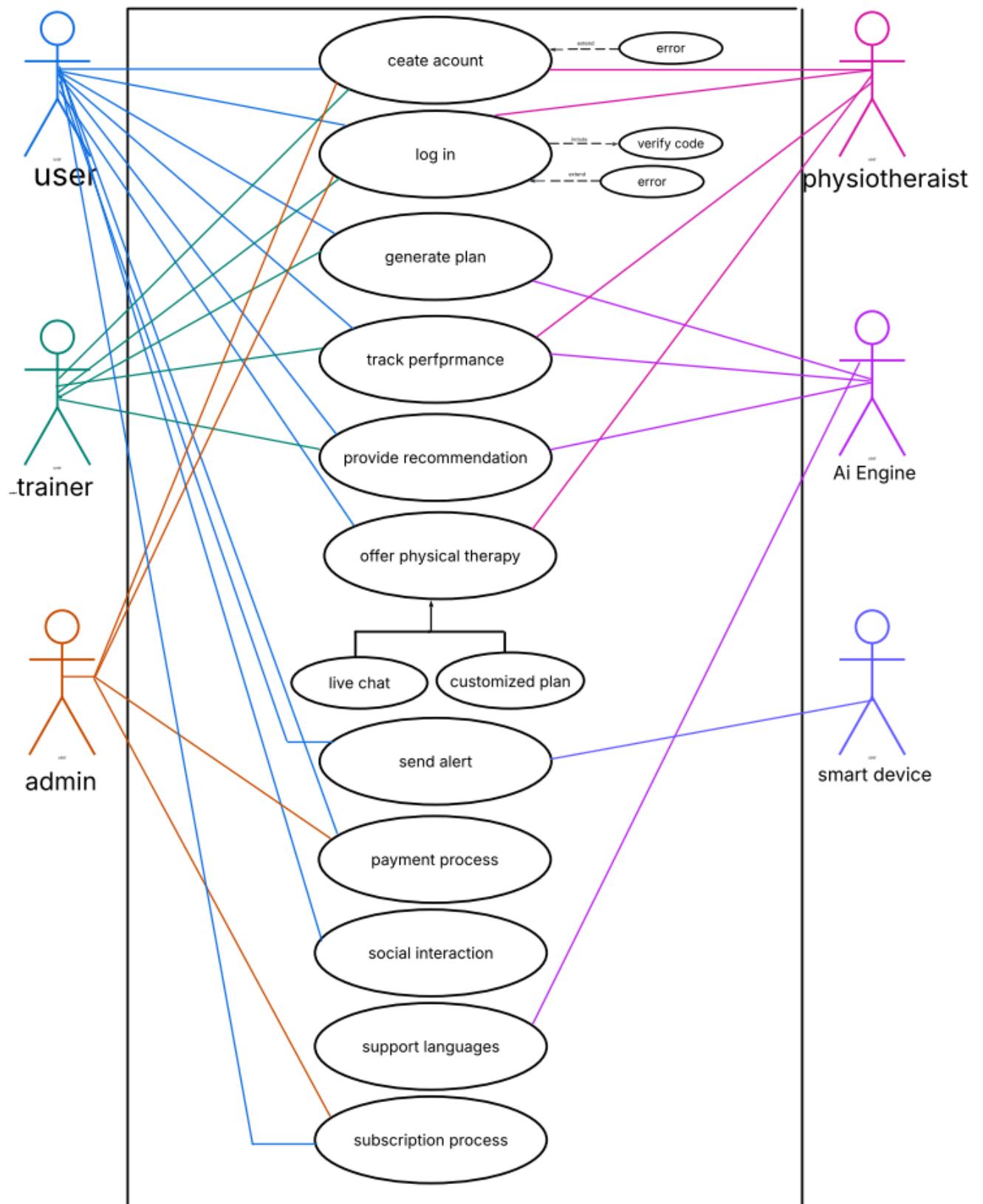
# Non-Functional Requirements for The Security

ID	Requirement Definition	Description
S1	Authentication	Supports biometric security (Face ID and fingerprint) and Two-Factor Authentication (2FA) for secure access.
S2	Session Management	Sessions expire after 15 minutes of non-use to prevent unauthorized access.
S3	Data Recovery and Backup	Keeps safe cloud backups to guard against data loss and guarantee accessibility.

# Task Table

Task	Name	ID
<u>Non-Functional Requirements for The Hardware Interface</u> & <u>Non-Functional Requirements for The User Interface</u>	Sadeem Awak	2301922
<u>Non-Functional Requirements for The Software Interface</u>	Rimas Almuntashiri	2311631
<u>Non-Functional Requirements for The Security</u>	Raween Adel	2310849
<u>Functional Requirements</u>	Razan Adil	2311703
<u>Functional Requirements</u>	Jana Khalid	2311055

# Use Case Diagram



# Use Case Description

## Project Overview:

FitNet is a smart fitness application designed to enhance users' workout experiences by combining artificial intelligence, expert support, and real-time tracking. The app offers personalized workout plans, progress tracking, injury prevention tips, and direct communication with trainers and physiotherapists. It aligns with Saudi Vision 2030 by promoting a healthier, more active lifestyle.

## UC1: Create Account

Scope: FitNet Application.

Level: User Registration.

Primary Actor: User.

Precondition: The user opens the application for the first time.

Stakeholders and Interests: - User: Wants to access the app services and features.

• System: Verifies identity to protect data.

• Main Scenario:

1. The user chooses to sign up.
2. Enters phone number or email.
3. System sends OTP for verification (include: Verify Code).
4. The user enters OTP code.
5. If code is invalid, an error message is shown (extend: Error).
6. The account is created and user is redirected to the home screen.



# Use Case Description

## UC2: Log In

Scope: FitNet Application Level: Authentication.



Primary Actor: User.

Precondition: User already has an account.

Stakeholders and Interests:

- User: Wants quick and secure access.
- System: Verifies identity to protect data.

• Main Scenario:

1. User enters credentials (email/phone and password).
2. System sends verification code (include: Verify Code).
3. User enters code.
4. If credentials or code are incorrect, an error message is displayed (extend: Error).
5. User is granted access.

## UC3: Generate Plan

Scope: FitNet Application.

Level: Personalized Training.

Primary Actor: User.

Precondition: User has a profile with fitness data.

Stakeholders and Interests: - User: Needs a plan suited to personal goals.

- System: Verifies identity to protect data.

• Main Scenario:

1. User requests a workout plan.
2. System gathers data (age, weight, goals, etc.).
3. AI generates a suitable plan.
4. If user needs human customization, Live Chat option is available (extend: Live Chat Customized Plan).
5. Plan is added to user's schedule.

# Use Case Description

UC4: Track Performance

Scope: FitNet Application.

Level: Real-time Monitoring.

Primary Actor: User.

Precondition: User is logged in and using a smart device.

Stakeholders and Interests: - User: Wants to follow up on their progress.

- System: Verifies identity to protect data.

- Main Scenario:

1. System connects to smart device.
2. Tracks workout metrics (heart rate, steps, etc.).
3. Updates user's performance record.

UC5: Provide Recommendation

Scope: FitNet Application.

Level: Smart Assistance.

Primary Actor: System.

Precondition: User is actively training.

- System: Verifies identity to protect data.

- Main Scenario:

1. System reviews workout data.
2. Sends tips for hydration, rest, warm-up.
3. Alerts for abnormal metrics (e.g., high heart rate).



# Use Case Description

UC6: Offer Physical Therapy



Scope: FitNet Application.

Level: Health Support.

Primary Actor: Physiotherapist.

Precondition: User reports need for recovery or injury prevention.

Stakeholders and Interests: - User: Seeks recovery guidance.

- Physiotherapist: Provides expert advice.

- System: Verifies identity to protect data.

- Main Scenario:

1. User requests therapy support.

2. System connects user with physiotherapist.

3. Therapist provides personalized recovery plan.

4. User may continue chat for live guidance (include: Live Chat).

UC7: Send Alert

Scope: FitNet Application.

Level: Safety Notifications.

Primary Actor: System.

Precondition: Ongoing workout session.

Stakeholders and Interests: - User: Wants to stay safe during training.

- System: Verifies identity to protect data.

- Main Scenario:

1. System detects irregular patterns.

2. Sends notification (e.g., muscle fatigue or injury risk).

3. Suggests action or rest.

# Use Case Description

UC8: Payment & Subscription

Scope: FitNet Application.

Level: Financial Services.

Primary Actor: User.

Precondition: User has chosen a subscription plan.

Stakeholders and Interests: - User: Wants secure and flexible payment.

- System: Verifies identity to protect data.

- Main Scenario:

1. User selects a subscription (monthly/annually).
2. Chooses payment method (Apple Pay, STC Pay, etc.).
3. System confirms payment and activates plan.

UC9: Social Interaction

Scope: FitNet Application.

Level: Community Engagement.

Primary Actor: User / Trainer.

Precondition: User is registered.

Stakeholders and Interests: - User: Seeks motivation and connection.

- Trainer: Shares tips and progress.

- Main Scenario:

1. User joins fitness groups or discussion boards.
2. Shares achievements or asks questions.
3. Trainer or others respond and interact.



# Use Case Description

UC10: Support Languages

Scope: FitNet Application.

Level: Accessibility.

Primary Actor: User.

Precondition: App is installed.

- System: Verifies identity to protect data.
- Main Scenario:

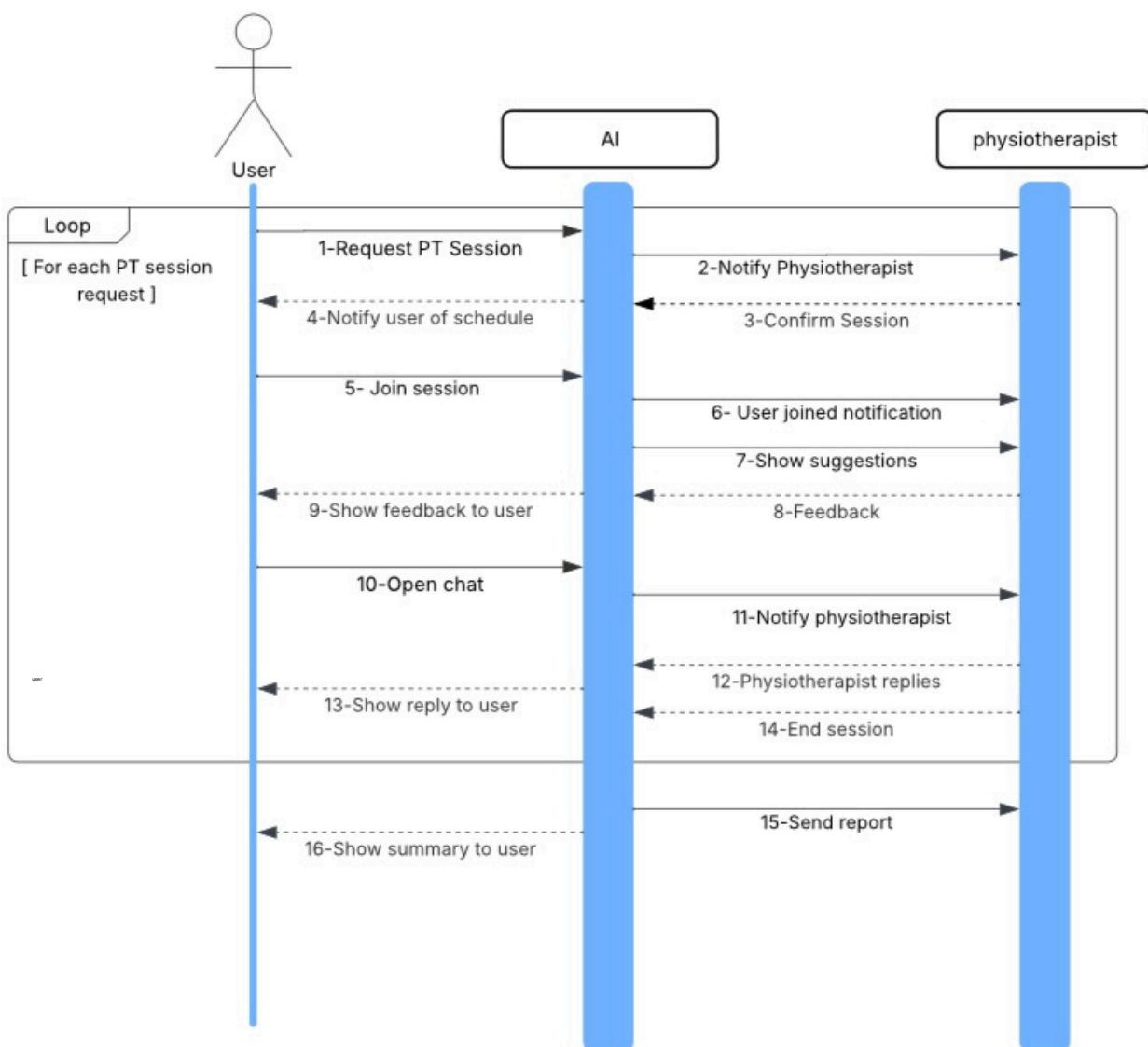
1. User selects preferred language (Arabic or English).
2. App content updates accordingly.



# Task Table

Task	Name	ID
<u>Use Case Diagram</u>	Sadeem Awak	2301922
<u>Use Case Diagram</u>	Rimas Almuntashiri	2311631
<u>Use Case Description</u>	Raween Adel	2310849
<u>Use Case Description</u>	Razan Adil	2311703
<u>Use Case Description</u>	Jana Khalid	2311055

# Sequence diagram



1- The User sends a PT session request to the AI Engine.

- \* Inside a loop, the AI Engine:
- \* Notifies the physiotherapist.
- \* Waits for session confirmation.
- \* Sends the schedule to the user.
- \* Waits for the user to join.

\* Notifies the physiotherapist that the user has joined.

- \* Receives physiotherapist feedback.
- \* Sends the feedback to the user.
- \* Waits for the user to open the chat.
- \* Notifies the physiotherapist.
- \* Waits for the physiotherapist's reply.
- \* Sends the reply to the user.
- \* Waits for the session to end.

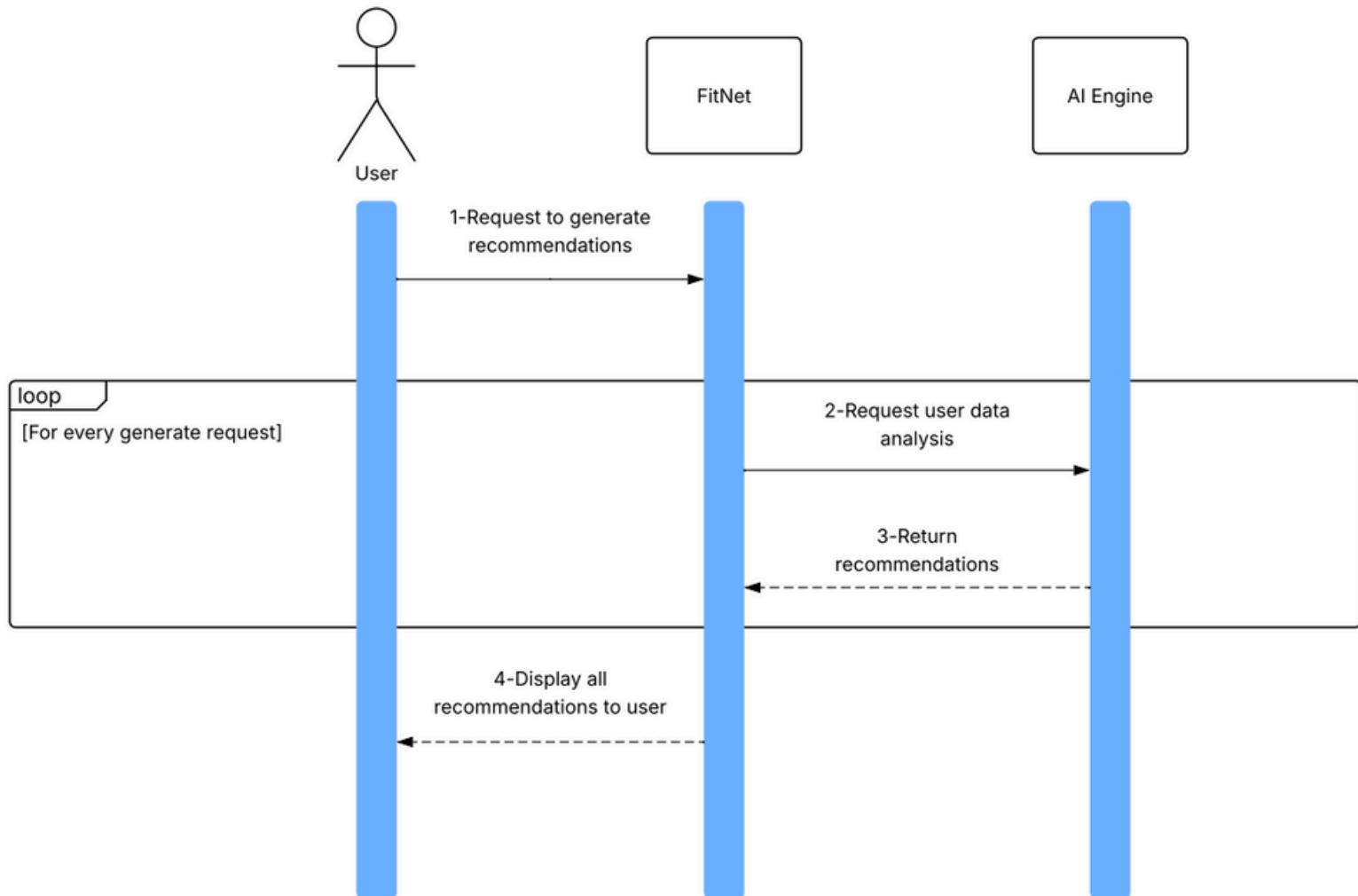
(This loop repeats for each PT session request.)

3- After the loop, the AI Engine:

- \* Sends a session report to the physiotherapist.
- \* Shows a session summary to the user.



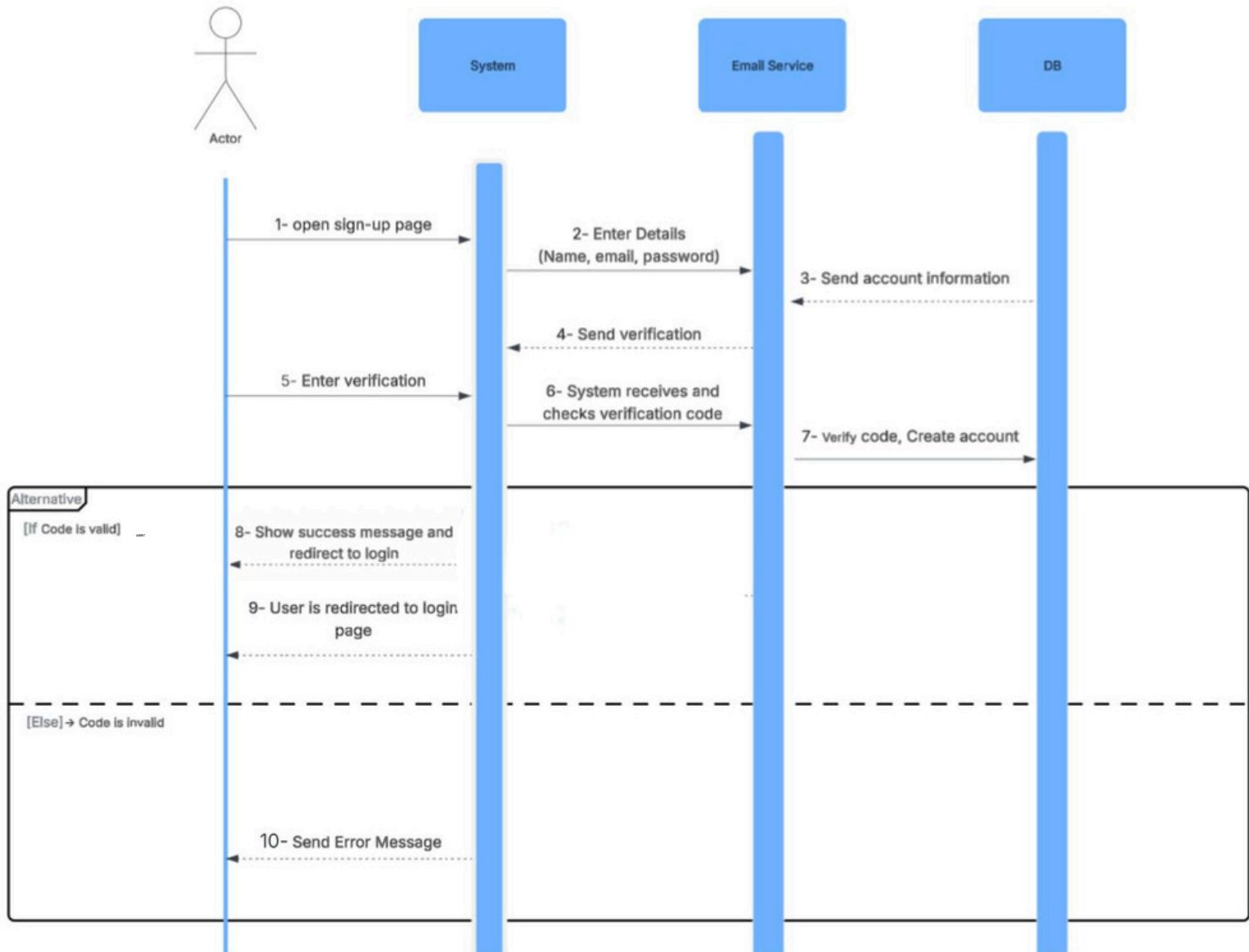
# Sequence diagram



1. The User sends a request to generate recommendations to the FitNet AI Engine.
2. Inside a loop, the AI Engine:
  - Requests the user's data.
  - Analyzes it and generates one recommendation (repeated for each request).
3. After the loop, all generated recommendations are compiled and sent back to FitNet.
4. FitNet displays all recommendations to the user for review and selection.

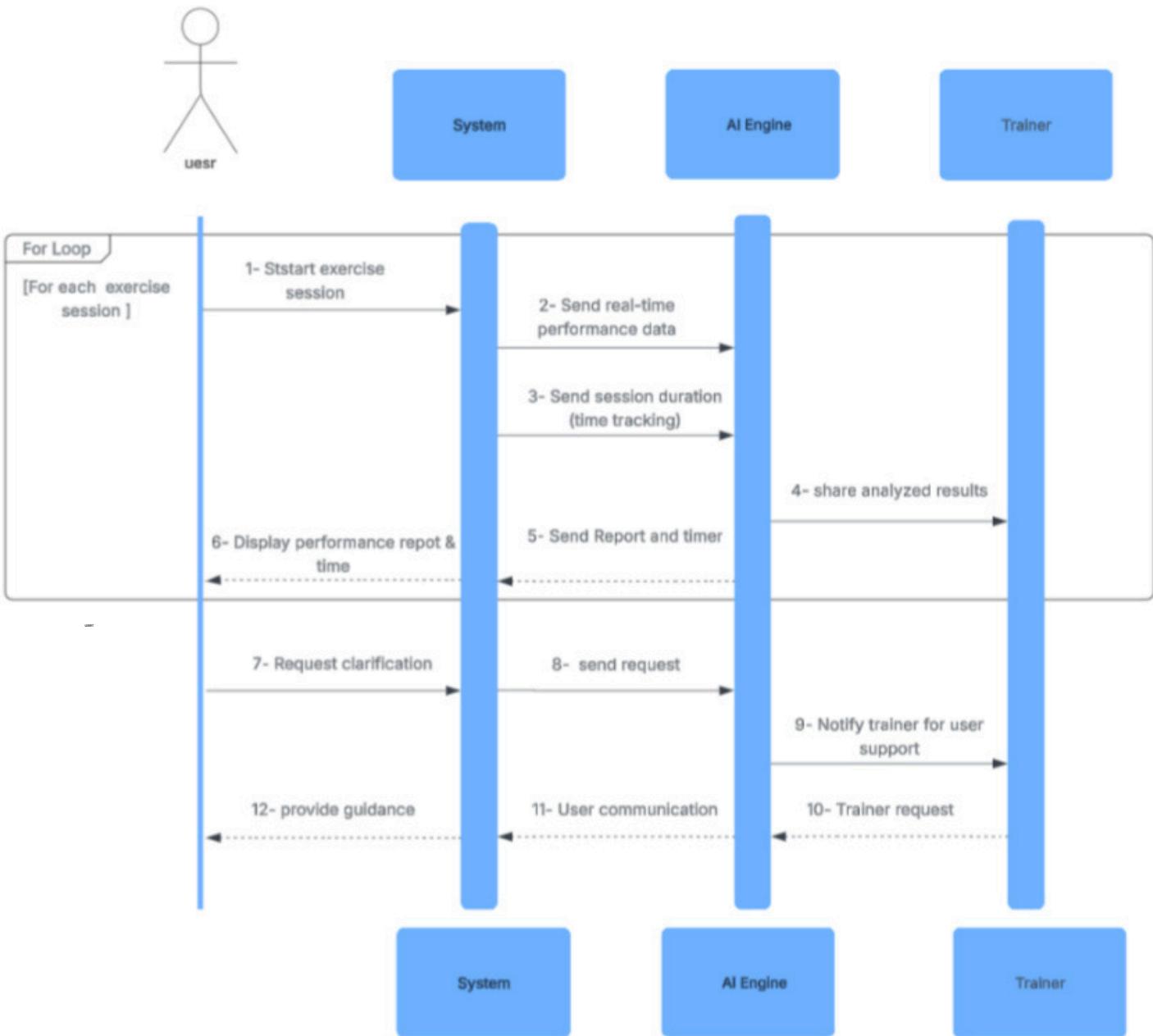


# Sequence diagram



1. The User opens the sign-up page.
2. The User enters their details (name, email, password).
3. The system sends the information to the email service, which forwards it to the database.
4. A verification code is sent to the user.
5. The User enters the verification code.
6. The system checks the code:
  - if valid: The account is created, a success message is shown, and the user is redirected to the log in page.
  - if invalid: An error message is displayed.

# Sequence diagram



This sequence diagram shows how the system tracks performance during each exercise session. It starts with the user starting a session, then the system sends real-time data and session time to the AI Engine. The AI analyzes the data and shares it with the trainer.



After that, the system displays a report and timing to the user. If the user wants clarification, the AI sends the request to the trainer, who replies with personalized guidance.

The loop in the diagram means these steps happen every time the user does a session, making the process repeatable and organized.

# Task Table

Task	Name	ID
<u>Sequence diagram1</u>	Sadeem Awak	2301922
<u>Sequence diagram2</u>	Rimas Almuntashiri	2311631
<u>Sequence diagram1</u>	Raween Adel	2310849
<u>Sequence diagram3</u>	Razan Adil	2311703
<u>Sequence diagram4</u>	Jana Khalid	2311055

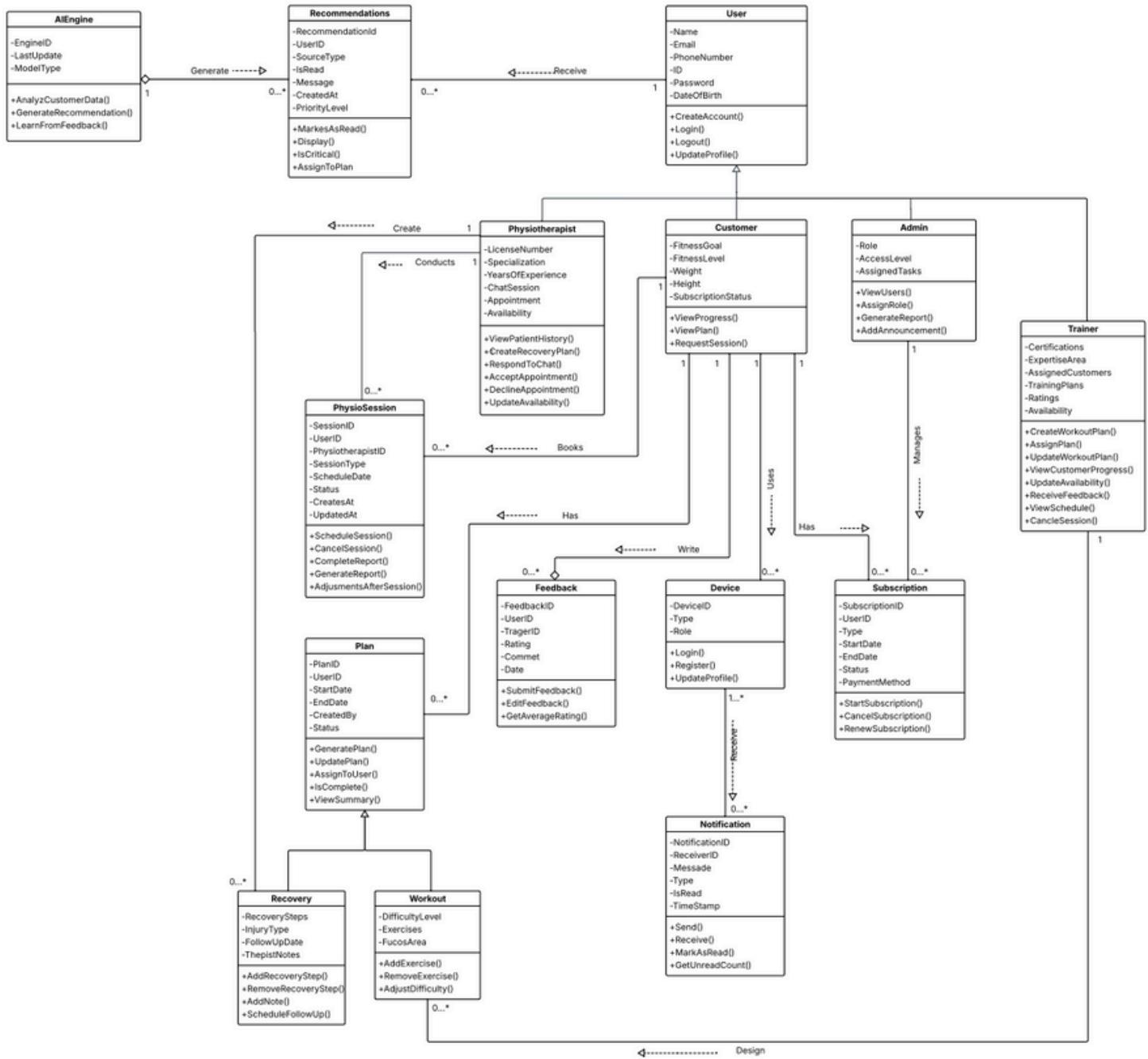
# General Discription

This system offers a comprehensive digital platform that connects users with fitness and rehabilitation services in a streamlined and user-friendly environment. It is designed to support a range of user types — including individuals seeking to improve their health, trainers providing workout plans, and physiotherapists offering recovery guidance. The platform enables users to create and manage accounts, access personalized fitness or recovery plans, track their progress over time, and communicate with professionals for support and guidance.

In addition to session scheduling and subscription management, the system includes tools for feedback, notifications, and recommendations tailored to the user's needs. It aims to centralize all aspects of health and fitness management into a single platform, improving efficiency, accessibility, and the overall user experience. The integration of intelligent features and personalized interactions ensures that users receive support that evolves with their progress and goals.



# Class diagram



This class diagram represents the main components of the FitNet system and their relationships. It illustrates how different user roles--such as general users, customers, trainers, physiotherapists, and admins-- interact with core elements like workout plans, recovery sessions, feedback, and notifications.

The diagram demonstrates inheritance between the User class and specific user types, and shows key associations such as how customers request physiotherapy sessions, trainers manage workout plans, and the AI Engine generates personalized recommendations.

Additionally, the diagram captures the system's design in terms of data flow, user feedback tracking, and subscription management, making it a comprehensive blueprint of the fitness platform's architecture and feature integration.



# Discription

Class	Description	Attributes	Methods
User	Base class for all users in the system (customers, trainers, etc.)	Name, Email, PhoneNumber, ID, Password, DateOfBirth	CreateAccount(), Login(), Logout(), UpdateProfile()
Customer	Represents a client using training or recovery services	FitnessGoal, FitnessLevel, Weight, Height, SubscriptionStatus	ViewProgress(), ViewPlan(), RequestSession()
Physiotherapist	A medical professional who helps customers recover from injuries	LicenseNumber, Specialization, YearsOfExperience, ChatSession, Appointment, Availability	ViewPatientHistory(), CreateRecoveryPlan(), RespondToChat(), AcceptAppointment(), DeclineAppointment(), UpdateAvailability()
Trainer	A fitness expert responsible for creating and managing workout plans	Certifications, ExpertiseArea, AssignedCustomers, TrainingPlans, Ratings, Availability	CreateWorkoutPlan(), AssignPlan(), UpdateWorkoutPlan(), ViewCustomerProgress(), UpdateAvailability(), ReceiveFeedback(), ViewSchedule(), CancelSession()

# Discription

Class	Description	Attributes	Methods
Admin	System manager who controls access and monitors user activities	Role, AccessLevel, AssignedTasks	ViewUsers(), AssignRole(), GenerateReport(), AddAnnouncement()
Plan	General structure for user fitness or recovery plans	PlanID, UserID, StartDate, EndDate, CreatedBy, Status	GeneratePlan(), UpdatePlan(), AssignToUser(), IsComplete(), ViewSummary()
Workout	A collection of exercises with a specific difficulty and focus area	DifficultyLevel, Exercises, FocusArea	AddExercise(), RemoveExercise(), AdjustDifficulty()
Recovery	Recovery plan containing steps and notes for injuries	RecoverySteps, InjuryType, FollowUpDate, TherapistNotes	AddRecoveryStep(), RemoveRecoveryStep(), AddNote(), ScheduleFollowUp()

# Discription

Class	Description	Attributes	Methods
PhysioSession	A scheduled session between a customer and physiotherapist	SessionID, UserID, PhysiotherapistID, SessionType, ScheduleDate, Status, CreatedAt, UpdateAT	ScheduleSession(), CancelSession(), CompleteSession(), GenerateReport(), AdjustmentsAfterSession()
Device	Represents a device used to access the platform	DeviceID, Type, Role	Login(), Register(), UpdateProfile()
Subscription	Manages user subscription details	SubscriptionID, UserID, Type, StartDate, EndDate, Status, PaymentMethod	StartSubscription(), CancelSubscription(), RenewSubscription()
Notification	Messages sent to users for updates or alerts	NotificationID, ReceiverID, Message, Type, IsRead, Timestamp	Send(), Receive(), MarkAsRead(), GetUnreadCount()

# Discription

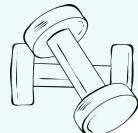
Class	Description	Attributes	Methods
Feedback	User-generated ratings and comments	FeedbackID, UserID, TargetID, Rating, Comment, Date	SubmitFeedback(), EditFeedback(), GetAverageRating()
Recommendations	Suggestions generated for users based on data or AI	RecommendationID, UserID, SourceType, IsRead, Message, CreatedAt, PriorityLevel	MarkAsRead(), Display(), IsCritical(), AssignToPlan()
AiEngine	Artificial intelligence engine responsible for learning and recommending plans	EngineID, LastUpdate, ModelType	AnalyzeCustomerData(), GenerateRecommendation(), LearnFromFeedback()

# Task Table

Task	Name	ID
<u>Class diagram - Relationships - General description</u>	Sadeem Awak	2301922
<u>Class diagram</u>	Rimas Almuntashiri	2311631
<u>Class diagram - Discription</u>	Raween Adel	2310849
<u>Class diagram</u>	Razan Adil	2311703
<u>Relationships</u>	Jana Khalid	2311055

# Conclusion

In conclusion, FitNet is an AI-powered fitness application designed to provide personalized workout routines and recovery plans, along with on-demand expert support. It improves training safety by incorporating injury prevention measures and physiotherapy guidance, while also boosting user engagement through interactive progress tracking and a user-friendly interface. By addressing common fitness challenges such as generic programs, injury risks, and lack of motivation, FitNet helps users stay consistent and improve their performance. Overall, the project aligns with Saudi Vision 2030's health objectives and offers a modern yet effective solution to enhance everyday fitness experiences.



# Suggestions

- Focus on Security: Ensure the app continues to protect user data with strong security measures like data encryption and two-factor authentication.
- Add More Features: Include additional wellness options such as nutrition tracking, hydration reminders, or mental wellness tips to provide a more holistic fitness experience.
- Make It User-Friendly: Keep refining the app's design and accessibility so it's intuitive for beginners and experienced users alike, encouraging regular use.
- Promote the App: Spread the word about FitNet through social media, fitness influencers, and community wellness campaigns to reach more users and increase engagement.
- Work with Gyms & Trainers: Collaborate with local fitness centers and personal trainers to integrate FitNet into their programs, expanding the app's reach and providing users with combined online and in-person support.



# References

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# Task Table

Task	Name	ID
<u>References</u>	Sadeem Awak	2301922
<u>References</u>	Rimas Almuntashiri	2311631
<u>Suggestions</u>	Raween Adel	2310849
<u>Conclusion</u>	Razan Adil	2311703
<u>Conclusion</u>	Jana Khalid	2311055

**Thank you!**