



CI4305 COURSEWORK 1

App Design Prototype Project (Part 1)

Group Members and Participation

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1.1 – 1.3 INTRODUCTION AND BACKGROUND RESEARCH

Complete this section in accordance with the coursework marking scheme.

Page Specification: Maximum 3 Pages.

1.1 Fitness and Diet Tracker App Description

The application tracks users' nutritional and physical activity habits in order to assist users in maintaining a healthy lifestyle. To keep users interested and on track with their health goals, it will offer motivational elements, progress tracking, and personalised recommendations.

What topic/genre you have chosen?

- Fitness

Will it be an app, desktop application, web application etc.?

- An app

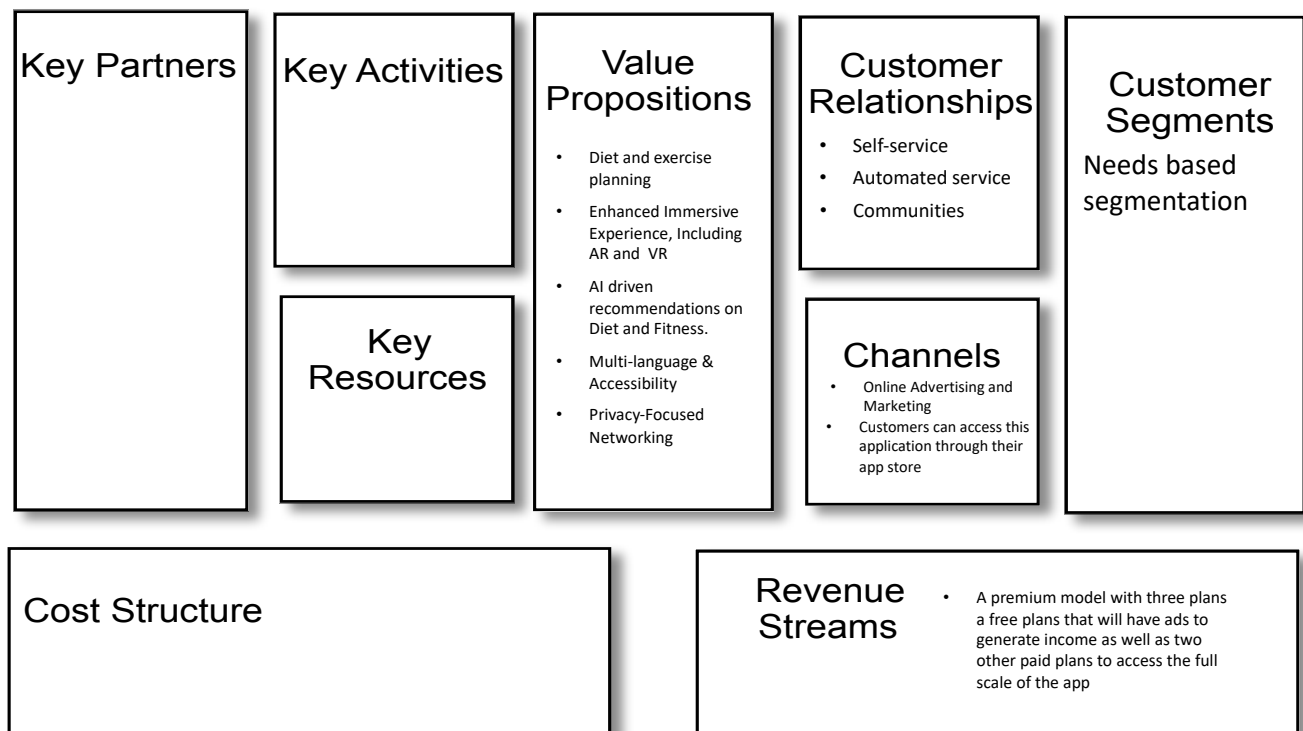
Will it be delivered only on a phone or tablet or we browser etc.?

- This is an app that would work on every phone or tablet.

How will prospective users gain access to it? Through an app store, direct download etc.

- It is accessible through the App Store and Play Store.

1.2 Business Model Canvas



1.3 Benefits and Limitations of Existing Fitness and Diet Tracker Apps

Nike Training Club

Benefits:-

Wide variety of Workouts - NTC offers a diverse range of workouts tailored to different fitness levels, including strength training, cardio, yoga, and mobility exercises. This variety keeps routines fresh and caters to a broad audience.

Progress Tracking - Users may stay motivated and evaluate their development over time by using the app to document their workout history, accomplishments, and progress.

Customizable Workout Plans - Users can create custom workout plans based on their fitness goals, preferences, and available equipment. These plans adapt as users progress, providing ongoing motivation.

(Nike (2023). Nike Training Club App. Home Workouts & More. [online] Nike.com. Available at: <https://www.nike.com/gb/ntc-app>)

Limitations:-

No meal plans or diet guidance -NTC does not provide meal plans or in-depth nutritional advice, which may be a limitation for users looking for a more comprehensive fitness program.

Can be Overwhelming for Beginners - The sheer number of workouts and options may feel overwhelming to users new to fitness, making it hard to know where to start.

Limited Interaction With Trainers - A drawback for those who require more individualized support could be the app's lack of interactive capabilities that allow users to interact with trainers or receive tailored advice.

MyFitnessPal

Benefits :-

Calorie and Macronutrient Tracking - The app allows users to track their daily calorie intake, as well as macronutrients (carbohydrates, proteins, fats). It provides real-time feedback on how meals align with users' calorie and nutrition goals.

Barcode Scanner for easy Logging - Users can scan the barcode of food products to instantly log nutrition information, saving time and improving accuracy.

(MyFitnessPal (2024). MyFitnessPal. [online] Myfitnesspal.com. Available at: <https://www.myfitnesspal.com/>.)

Limitations :-

Limited Meal Planning and diet guidance - MyFitnessPal primarily focuses on calorie and macronutrient tracking, but it lacks robust meal planning features. While it helps users log what they eat, it does not provide personalized meal suggestions or comprehensive diet guidance.

No Comprehensive Workout Integration - it doesn't offer built-in workout plans or virtual trainers like apps such as Nike Training Club, making it less appealing for users looking for an all-in-one fitness app.

How will our prototype app be different:-

Personalized Workouts with Real-time Feedback –

- During exercises, use motion-tracking or artificial intelligence (AI) to provide real-time feedback on form, posture, and technique. Users, particularly beginners, might benefit from this by avoiding injuries and performing better.
- Provide individualised training programs that change based on the user's fitness level, progress, and desired outcomes (e.g., strength, muscle gain, weight loss).

Virtual Reality(VR) and Augmented Reality(AR) Integration –

- Introduce VR/AR-guided workouts for an immersive fitness experience. Users could perform exercises in a virtual gym or outdoors, offering a fresh and engaging experience.

Highly Personalized Nutrition Plans –

- Go beyond simple calorie counting by offering AI-driven, personalized meal plans tailored to specific dietary preferences (vegan, keto, paleo, etc.), allergies, and goals (weight loss, muscle gain, gut health).
- Include nutritional coaching with recommendations based on users' activity levels, fitness goals, and metabolic data.

Hydration and Supplement Tracking –

- Allow users to track their water intake, hydration levels, and even supplement usage (e.g., protein powder, vitamins).
- Provide reminders for hydration or supplement consumption based on daily activity and goals.

AI Powered Insights and Progress Reports –

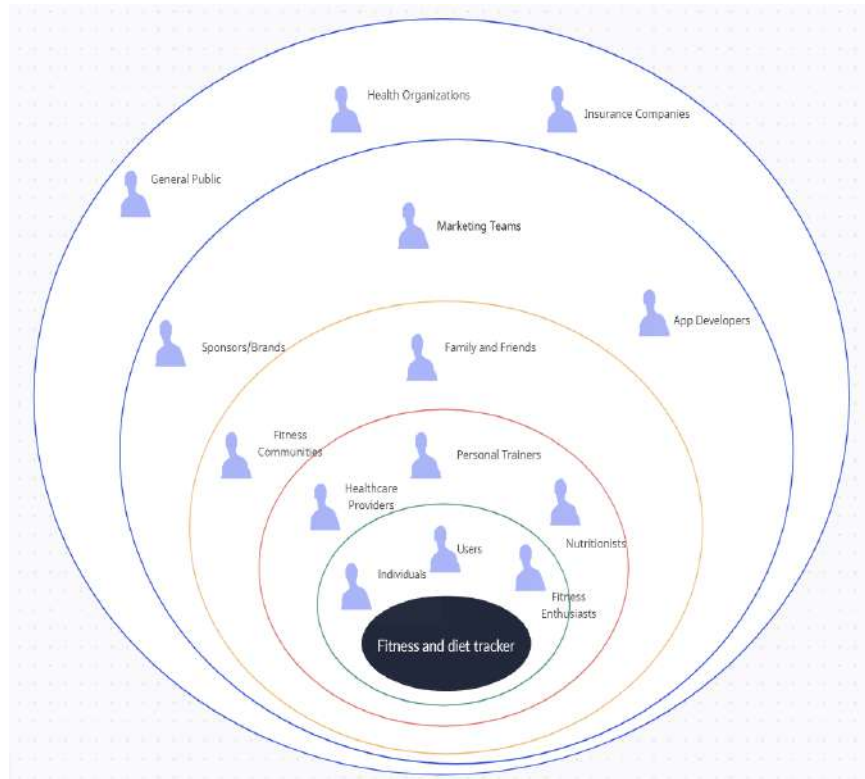
- Use AI to analyze users' overall health and fitness data over time, offering detailed progress reports and insights. For example, users could receive weekly reports highlighting trends, strengths, and areas for improvement.
- Provide predictive insights, like suggesting adjustments to diet or workout routines based on past data trends and upcoming fitness milestones.

1.4 – 1.5 STAKEHOLDERS

Complete this section in accordance with the coursework marking scheme.
Page Specification: Maximum 2 Pages.

1.4 A brief description of each stakeholder

Onion Diagram



Description

Core Layer: Users

Individuals/Users - The fitness and diet tracker's main users are these people. Every day, they engage with the app or gadget, entering information about their food consumption, exercise routines, and health indicators. Their input is essential for enhancing functionality and user experience.

Interest: Directly benefit from the fitness and diet tracker. They are interested in achieving health and fitness goals efficiently.

Influence: High influence as their feedback and engagement drive the app's success.

Ally: Yes, they are the primary allies of the project.

Fitness Enthusiasts – This group of people use this app most often, as they are motivated to track their fitness progress and diet plans. Thus, seeking the latest and most efficient features of the app.

Interest: Have a strong interest in detailed tracking and improvements in their personal fitness journeys.

Influence: Moderate, they promote the app within communities and provide valuable feedback.

Ally: Yes, likely strong advocates.

Second Layer: Direct Stakeholders

Personal Trainers - The app may be used by trainers to create goals, keep track of their clients' progress, and offer tailored advice. Training programs can be more successful if trainers and clients communicate better thanks to the app.

Interest: Interested in how the app can help patients monitor and improve their health metrics.

Influence: High, as their endorsement could lend credibility to the app.

Nutritionists – The nutritionists can guide their clients in eating healthy meals and maintaining a proper balanced diet. They can use this app to make right decisions for their clients.

Interest: Help users track their diets and provide nutritional advice through the app.

Influence: Moderate, since they can directly influence user engagement with dietary features.

Healthcare Providers - Doctors and healthcare professionals may endorse or prescribe the app to patients with specific health conditions, such as obesity or diabetes, promoting proactive health management.

Interest: Interested in how the app can help patients monitor and improve their health metrics.

Influence: High, as their endorsement could lend credibility to the app.

Third Layer: Indirect Stakeholders

Family and Friends - The social circle of users can significantly impact their motivation and adherence to fitness and dietary goals. Support from loved ones can enhance accountability and engagement with the app.

Interest: May encourage users to maintain fitness or engage with them via social features.

Influence: Moderate, through encouragement and motivation.

Fitness Communities - Online platforms or local clubs where users can share experiences, challenges, and tips. The app may also feature community-building elements like forums or challenges that encourage social interaction.

Interest: May use the app to foster group challenges, support, and motivation.

Influence: Moderate, as they can spread the word about the app.

Fourth Layer: Business and Strategic Partners

App Developers - The team responsible for creating, maintaining, and updating the app. They ensure that it meets user needs and incorporates new technologies or features based on user feedback.

Interest: Focused on ensuring the app functions effectively and continuously improves.

Influence: High influence as they directly shape the app's capabilities.

Ally: Yes, a core ally for the project's technical success.

Marketing Teams - These teams, which are dedicated to promoting the app across several platforms, research user demographics and market trends to develop successful marketing plans that draw in new users.

Interest: Interested in promoting the app to expand its user base.

Influence: High, as they control the communication of the app's value to the public.

Ally: Yes, as success is tied to effective promotion.

Sponsors/Brands - Companies that partner with the app for advertising or promotional opportunities, such as fitness gear brands or health food companies. These partnerships can enhance user experience and provide additional resources or discounts.

Interest: Interested in potential collaborations, advertising, or partnerships with the app.

Influence: Moderate to high, depending on their investment.

Ally: An ally because they bring financial or brand benefit.

Outer Layer: Regulatory and Societal Influences

Health Organizations - Bodies like the World Health Organization (WHO) or local health departments may influence the app's guidelines and recommendations, ensuring they align with public health objectives.

Interest: Interested in how the app can contribute to public health initiatives or data collection.

Influence: High, particularly in terms of regulatory and ethical compliance.

Ally: They are allies because the app aligns with health goals.

Insurance Companies - When users reach specific health milestones, insurers may provide premium savings as an incentive for using the app. App usage and user engagement may increase as a result.

Interest: Could use the app's data to offer health-based incentives for users.

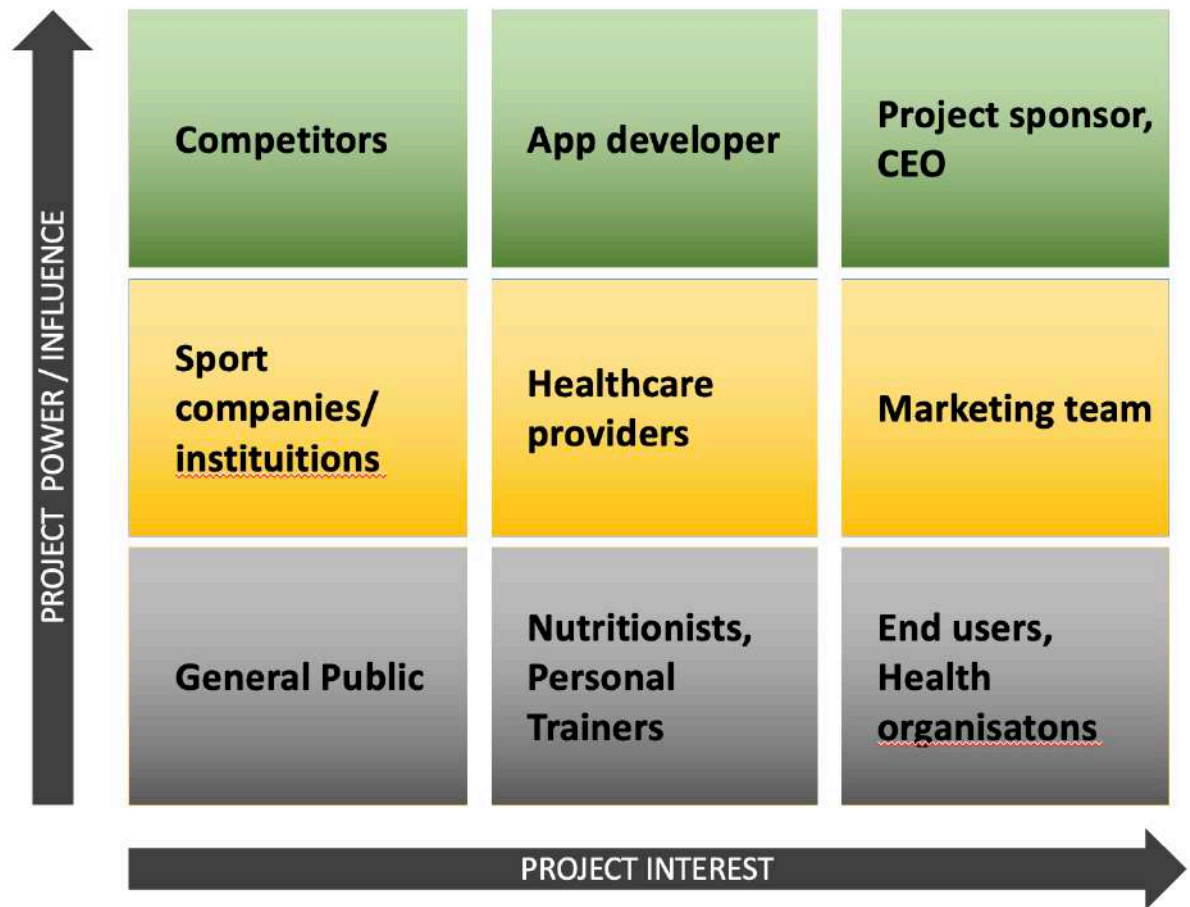
Influence: High, as they have potential financial power and could influence user behaviour.

General Public - Societal attitudes towards health, fitness, and technology can shape the app's features and marketing approach. Public trends in wellness and fitness can influence user adoption rates.

Interest: Limited unless they become users or are directly affected by user stories.

Influence: Low unless a large user base grows.

1.5 Power Interest Grid



1.6 – 1.7 REQUIREMENTS ELICITATION

Complete this section in accordance with the coursework marking scheme.

Page Specification: Maximum 2 Pages.

1.6 Justification for Interviews and Workshops

Interviews are a valuable way to understand and meet stakeholder needs, especially for those with specialized interests and significant influence. Users, fitness enthusiasts, medical professionals, personal trainers, and dietitians all have unique perspectives, and interviews help build trust and strong relationships with them.

Workshops are a great way to gather input from second- and third-layer stakeholders, like marketing teams, developers, personal trainers, nutritionists, family members, and fitness networks. These sessions encourage group discussions and collaborative brainstorming, helping stakeholders with similar goals align on priorities and share valuable insights

1.7 Sample Questions

1. How do you plan to use our app?
2. How do you aim to track your fitness and dietary requirements?
3. What will this app help you accomplish?
4. What features would interest you in an app like this?
5. What is the end result after you complete your goal?
6. Does this feature meet the sponsors need and solve the problem we're trying to solve?
7. How will this aid medical services and benefit them?
8. Will this app accomplish everything it says it does?
9. How often do you plan on using the app?
10. What changes would you make to the app?

1.8 – 1.9 REQUIREMENTS AND NON-FUNCTIONAL REQUIREMENTS

Complete this section in accordance with the coursework marking scheme.

Page Specification: Maximum 1 Page.

1.8 Functional Requirements (per user)

General Users

1. **Register Account** - Allow users to create a new account.
2. **Login Account** - Enable users to securely log into their account.
3. **Update Profile** - Allow users to update their personal information and preferences.
4. **View Progress** - Provide users with a dashboard to view their fitness and diet progress.
5. **Set Goals** - Enable users to set fitness and diet goals.
6. **Receive Notifications** - Send reminders and alerts to users.
7. **Receive Workout Reminder** - Notify users about scheduled workouts.
8. **Receive Meal Reminder** - Remind users to log their meals.
9. **Receive Goal Achievement Alert** - Alert users when they reach their goals.
10. **Track Water Intake** - Enable users to share their workout progress with friends.

Fitness Enthusiasts

1. **Create Workout Plan** - Allow users to create custom workout plans.
2. **Follow Workout Plan** - Enable users to follow pre-designed or custom workout plans.
3. **Join Fitness Challenge** - Allow users to participate in fitness challenges.
4. **View Workout Statistics** - Provide detailed statistics on users' workouts.

5. **Share Workout Progress** - Enable users to share their workout progress with friends.
6. **Connect with Friends** - Allow users to connect with friends within the app.
7. **Track Exercise** - Enable users to log specific exercise details.
8. **Log Workout Details** - Allow users to log detailed information about their workouts.
9. **Analyse Performance** - Provide tools for users to analyse their workout performance.
10. **Access Workout Library** - Offer a library of workout routines and exercises.

Diet-Conscious Users

1. **Create Diet Plan** - Allow users to create personalized diet plans.
2. **Follow Diet Plan** - Enable users to follow pre-designed or custom diet plans.
3. **View Nutritional Information** - Provide detailed nutritional information for logged foods.
4. **Share Meal Progress** - Enable users to share their meal progress with friends.
5. **Set Calorie Goal** - Enable users to set daily calorie intake goals.
6. **Track Calorie Intake** - Allow users to log and track their daily calorie intake.
7. **Log Food Details** - Enable users to log detailed information about their meals.
8. **Analyse Nutritional Data** - Provide tools for users to analyze their nutritional intake.
9. **Access Food Diary** - Offer a comprehensive database of foods and their nutritional values.
10. **Receive Meal Suggestions** - Suggest meals based on users' dietary goals and preferences.

Admin Users

1. **User Account Management:** Admins can create, update, and delete user accounts.
2. **Content Management:** They update and manage the content within the app, such as workout plans, diet plans, and recipes.
3. **Report Generation:** Admins generate reports on user activity, app performance, and other metrics.
4. **User Activity Monitoring:** They monitor user activities to ensure compliance with app policies and to detect any suspicious behaviour.
5. **Competition Organization:** Admins organize and manage fitness challenges and competitions within the app.
6. **Data Security Management:** They ensure that all user data is securely stored and protected.
7. **Notification Management:** Admins manage the notifications sent to users, including reminders and alerts.
8. **Feedback Review:** They review user feedback and make necessary adjustments to improve the app.
9. **Feature Updates:** Admins update and implement new features to enhance the app's functionality.
10. **System Performance Monitoring:** They monitor the app's performance to ensure it runs efficiently and address any technical issues.

1.9 Non-Functional Requirements

1. **Response Time:** The system should have a response time of less than 2 seconds under normal load conditions, with a maximum limit of 5 seconds.
2. **Password Policies:** Passwords must be between 6-8 characters, include at least one uppercase letter, one lowercase letter, one number, and one special character.
3. **User-Friendly Interface:** The account management interface should be intuitive, easy to navigate, and provide clear instructions and feedback.
4. **Response Time:** Ensures quick loading of workout statistics with a response time of 1-3 seconds to enhance user experience.
5. **Data Accuracy:** Guarantees accurate and reliable statistics with 99.9-100% data accuracy.
6. **Multi-Language Support:** Supports 8-12 languages to cater to a diverse user base.
7. **Visualizations:** Provides basic to advanced visualizations, including graphs and charts, to help users easily interpret their workout data.

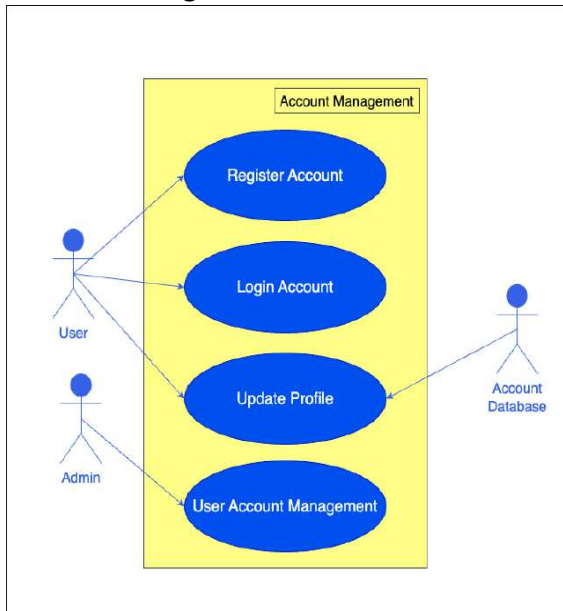
1.10 – 1.12 REQUIREMENTS MODELLING, VALIDATION & DOCUMENTATION

Complete this section in accordance with the coursework marking scheme.

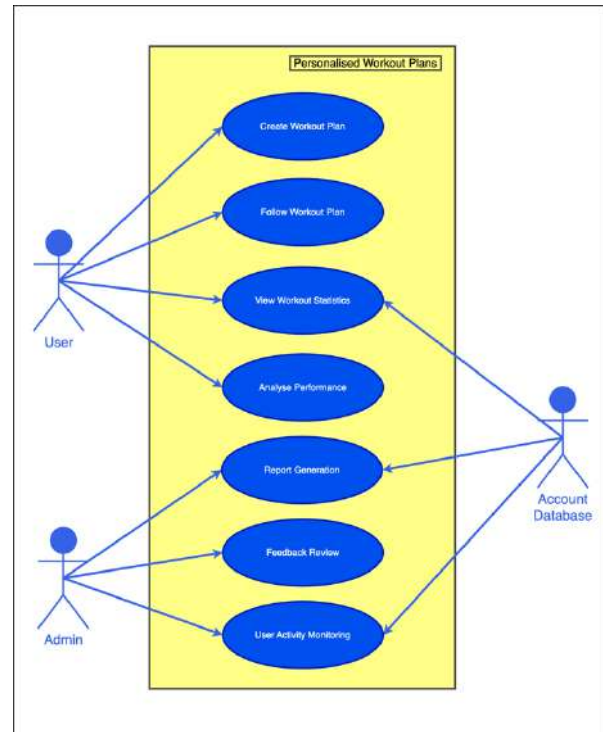
Page Specification: Maximum 5 Pages.

1.10 Use Case Diagram

Account Management



Personalized Workout Plans



1.11 Use Case Description

ACCOUNT MANAGEMENT

1. The user opens the prototype and selects the option to create a new account.
2. The system asks the user to enter their name.
3. The system asks the user to enter their email.
4. The system checks whether the email id is already registered or not.
5. The system prompts the user to enter their password.
6. The user submits the information.
7. The system creates a new account.
8. The user receives a confirmation email and can now log in.
9. The system asks the user to enter their personal information (e.g., age, gender, weight, height, fitness level).
10. The system stores the value in its database.

Extensions

1. If the user enters an invalid email or password during login, the system displays an error message and prompts the user to try again.
2. The user selects the “Forgot Password” option.
3. The system prompts the user to enter their email.
4. The user submits the email.
5. The system sends a password reset link to the user’s email.

PERSONALIZED WORKOUT PLAN

1. The user navigates to the workout planner section.
2. The system prompts the user to input their fitness goals (e.g., weight loss, muscle gain, endurance).

3. The user submits their fitness goals.
4. The system analyses the user's goals, personal information, and preferences.
5. The system generates a personalized workout plan.
6. The user reviews and confirms the workout plan.
7. The user follows the workout plan and logs their workouts in the system.
8. The system tracks the user's progress and provides feedback.

Extensions

1. The user can modify individual workouts within the plan (e.g., swap exercises, change duration).
2. The system updates the plan based on the modifications.
3. The user can view detailed progress reports (e.g., calories burned, improvements in strength or endurance).
4. The system generates and displays these reports based on the logged workouts.

1.12 Three Requirements Catalogue

Requirement Catalogue Entry			
Source: Arsh and Garv	Priority: Must	Owner: App Developer	Requirement ID: FR-1

Functional requirement	Account Management
The user shall be able to Register, Login, and Update Profile into their account.	

Benefits:
The user can securely log in and access their personalized fitness and diet data.
Comments/ Suggested solutions:
Related documents:
Related requirement:
Resolution:

Non-functional component			
Description	Target value	Acceptable range	Comments
Response Time	2 seconds	5 seconds	Should have a response time of less than 2 seconds under normal load conditions.
Password Policies	8-characters	6-8 characters	Passwords must include at least one uppercase letter, one lowercase letter, one number, and one special character.
User-Friendly Interface	Easy to navigate		The account management interface should be intuitive and easy to navigate, with clear instructions and feedback

Requirement Catalogue Entry			
Source: Arsh and Garv	Priority: Must	Owner: App Developer	Requirement ID: FR-2
Functional requirement		Workout Statistics Viewing	
Provide detailed statistics on users' workouts.			
Benefits:			
The user can see comprehensive workout data so that they can track their progress and modify their training plan based on facts.			
Comments/ Suggested solutions:			
Related documents:			
Related requirement:			
Resolution:			
Non-functional component			
Description	Target value	Acceptable range	Comments
Response Time	2 seconds	1-3 seconds	Ensures quick loading of workout statistics to enhance user experience.
Data Accuracy	100% accuracy	99.9-100%	Ensures that all displayed statistics are accurate and reliable.
Multi-Language Support	Support for 10 languages	8-12 languages	Caters to a diverse user base.
Visualizations	Multiple visualization types (graphs, charts)	Basic to advanced visualizations	Helps users easily interpret their workout data.

Requirement Catalogue Entry			
Source: Arsh and Garv	Priority: Must	Owner: App Developer	Requirement ID: FR-3

Functional requirement	Diet Plan Creation
User can make customized diet plans so that they follow a nutritional schedule that suits their dietary preferences and health objectives.	

Benefits:
You can design a diet plan that fits your unique tastes and lifestyle. Whether you love Mediterranean cuisine or need a gluten-free diet, your plan can reflect what you enjoy eating
Comments/ Suggested solutions:
Related documents:
Related requirement:
Resolution:

Non-functional component			
Description	Target value	Acceptable range	Comments
Response Time	<2 seconds	1-3 seconds	Ensures quick creation and updating of diet plans to enhance user experience.
User Friendly Interface	90% user satisfaction in usability tests	85-95%	Interface should be intuitive and easy to navigate
Data Accuracy	100% accuracy	99.9-100%	Ensures that all diet plan data is accurate and reliable

1.13 USER PERSONA

Complete this section in accordance with the coursework marking scheme.

Page Specification: Complete the templates below.

1.13 Two User Personae



JAMIE LEE

Software Developer

PROFILE

Jamie Lee, aged 28, is highly motivated and tech-savvy, with a strong understanding of fitness routines and nutrition. He is comfortable using advanced features in fitness apps to track their workouts, monitor progress, and engage with a community of like-minded individuals.

BACKGROUND AND USAGE

Jamie has tried various fitness and diet tracking apps but faced difficulties with each. Issues included lack of comprehensive features, poor user-friendliness, and inadequate customization options. Frustrated with managing multiple apps, Jamie turned to the fitness and diet tracker app, which offers an all-in-one solution. This app's ability to log workouts, track meals, and provide detailed health analytics in a user-friendly interface has been a game-changer, helping Jamie stay motivated and maintain a balanced, healthy lifestyle despite a busy schedule.

SKILLS

Knowledgeable about fitness routines, nutrition, and the latest fitness trends. Comfortable using technology and fitness apps

PERSONAL STANDARDS

- **Commitment to Health**
- **Discipline and Consistency**
- **Resilience**
- **Adaptability**

EDUCATION HISTORY

- **Masters in Product Design**
Stanford University in 2020
- **Bachelor's in Computer Science**
University of California, Berkeley in 2018

GOALS

- **Fitness Tracking**
Jamie wants to monitor workouts and physical activity to ensure progress and avoid injury.
- **Diet Management**
Aims to maintain a balanced diet that supports fitness goals and overall health.
- **Track Water Intake**
Jamie plans to log daily water intake to ensure proper hydration, which is crucial for overall health and fitness performance.



Taylor Morgan

Office Manager

About

Taylor Morgan, a 35-year-old office manager, is a health-conscious individual who values efficiency and simplicity in managing daily routines. With a busy job that often involves long hours at a desk, Taylor understands the importance of staying active and maintaining a balanced diet. Although Taylor has basic knowledge of fitness and nutrition, they are comfortable using smartphones and apps for daily tasks.

Background & Usage

Taylor has tried various fitness and diet tracking apps but faced difficulties due to insufficient features and poor user-friendliness. These apps lacked comprehensive tracking and customization options, leading to frustration and inefficiency. Seeking a more effective solution, Taylor turned to the fitness and diet tracker app, which offers an all-in-one, user-friendly experience. This app's ability to log workouts, track meals, and provide detailed health analytics helps Taylor stay motivated and maintain a balanced, healthy lifestyle despite a busy work schedule.

Skills

- Management Skills
- Creativity
- Digital Marketing
- Negotiation
- Critical Thinking
- Leadership

Education

- **Bachelor of Business Administration**
University of Texas at Austin 2011
This education provided a strong foundation in management, organizational skills, and effective communication.
- **Master's in Organizational Leadership**
University of Southern California 2015
This advanced education further developed Taylor's skills in strategic planning, leadership, and team management.

Goals

- **Monitor Activity**
This education provided a strong foundation in management, organizational skills, and effective communication.
- **Set Goals**
This advanced education further developed Taylor's skills in strategic planning, leadership, and team management.
- **Expert Advices**
Taylor will seek advice from fitness and nutrition experts available through the app to stay informed and motivated.
- **Health Goals**
Taylor will set specific health goals, such as lowering cholesterol or improving cardiovascular health, and track progress through the app.

1.14 USER STORIES

Complete this section in accordance with the coursework marking scheme.

Page Specification: Maximum 1 Page.

1.14 Eight User Stories

User Story 1: Account Management (Must Have)

As a user, I want to register an account so that I can securely log in and access my personalized fitness and diet data.

User Story 2: Activity Logging (Should Have)

As a user, I want to log my daily physical activities so that I can track my exercise routines and monitor my progress over time.

User Story 3: Workout Plan (Must Have)

As a fitness enthusiast, I want to design personalised training programs so that I may modify my exercise routines to fit my own fitness objectives.

User Story 4: Workout Statistics Viewing (Should Have)

As a Fitness Enthusiast, I want to see my comprehensive workout data so that I can track my progress and modify my training plan based on facts

User Story 5: Diet Plan Creation (Must Have)

As a Diet-Conscious user, I want to make customized diet plans so that I follow a nutritional schedule that suits my dietary preferences and health objectives.

User Story 6: Calorie Intake Tracking (Should Have)

As a Diet-Conscious user, I want to monitor my daily calorie intake so that I am remaining within my calorie target range and achieving my objective.

User Story 7: User Account Management (Must Have)

As an admin, I want to manage user accounts so that I can create, update, and delete accounts to maintain the integrity and security of the user base.

User Story 8: Content Update (Should Have)

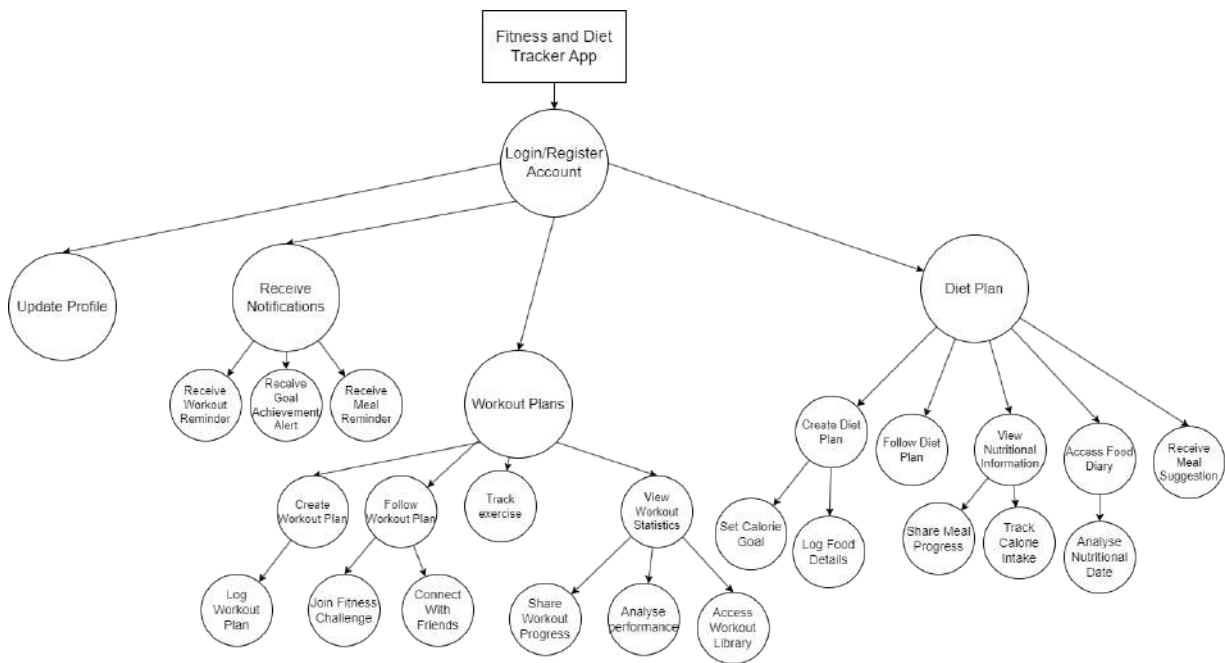
As an admin, I want to update workout and diet content regularly so that users have access to the latest and most effective plans and information.

1.15 – 1.16 NAVIGATION DESIGN

Complete this section in accordance with the coursework marking scheme.

Page Specification: No Page Specification.

1.15 Navigation Menu Hierarchal Design



1.16 Navigation Design Indented List

Main Menu

- **Login/Register Account**
 - **Update Profile**
 - **Receive Notifications**
 - Receive Workout Reminder
 - Receive Meal Reminder
 - Receive Goal Achievement Alert
 - **Workout Plan**
 - Create Workout Plan
 - Log Workout Plan
 - Follow Workout Plan
 - Join Fitness Challenge
 - Connect with friends
 - Track exercise
 - View Workout Statistics
 - Share Workout Progress

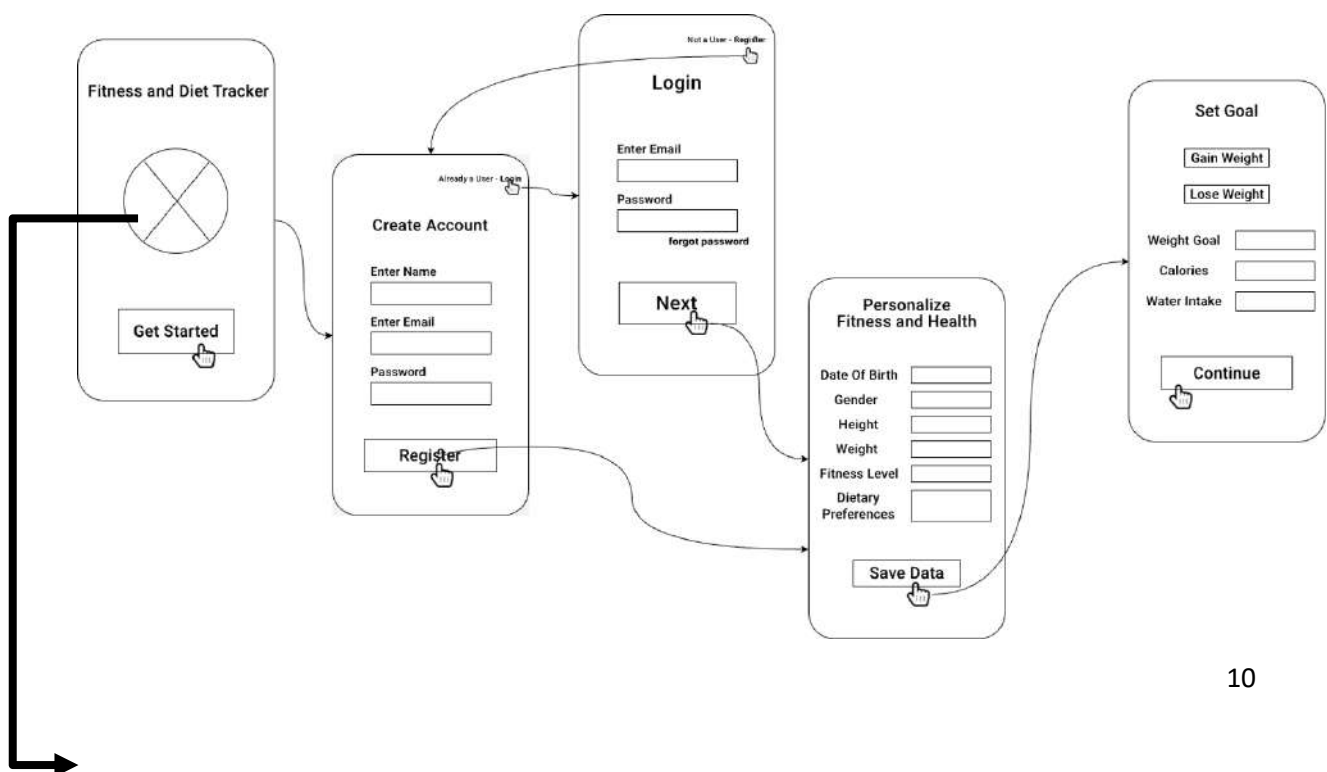
- Analyse Performance
- Access Workout Library
- **Diet Plan**
 - Create Diet Plan
 - Set Calorie Goal
 - Log Food Details
 - Follow Diet Plan
 - View Nutritional Information
 - Share Meal Progress
 - Track Calorie Intake
 - Access Food Diary
 - Analyse Nutritional Data
 - Receive Meal Suggestions

1.17 – 1.20 WIREFRAMING (MAXIMUM OF 5)

Complete this section in accordance with the coursework marking scheme.

Page Specification: No Page Specification.

1.17 – 1.20 Wireframes



This the logo for the app.

On the 1st frame, when the user taps on the "Get Started" button, it redirects the user to 2nd frame.

On the 2nd frame, the user creates their account by filling their login details and tapping the "Register" button, and then the user is redirected to the 4th frame.

If they are already registered they tap the "Login" button, it moves to the 3rd frame.

On the 3rd frame, the user fill in their details and taps the "Next" button and moves to the 4th frame.

On the 4th frame, the user fill their personal details and taps "Save Data" button. The user is the redirected to 5th frame.

On the 5th frame, the user set their goals and taps "Continue".

CI4305 COURSEWORK 2A

Design and Build a Clickable Prototype

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TEAM INFORMATION

Module ID	CI4305
Submission	Coursework 2
Team Name	B_TB2_G31

TEAM MEMBERS

KU Number	Name	Contributions
K2427057	Garv Nagar	100%
K2426185	Arsh Nagar	100%
K2410248	Muhammad Golamaully	0%
K2235035	Anton Roche	100%
K2409497	Vedant Pandya	100%

Accessible link to prototype

https://kingstonuniversity-my.sharepoint.com/:v:/g/personal/k2427057_kingston_ac_uk/EbmxM-Xt2F9li9ySUNKZs6UB7ku5vT5f_sBQv3pcr-9SHA?nav=eyJyZWZlcnJhbEluZm8iOnsicmVmZXJyYWxBcHAIiJTdHJlYW1XZWJBcHAIJCjYwZlcnJhbFZpZXciOiJTaGFyZURpYWxvZy1MaW5rliwicmVmZXJyYWxBcHBQbGF0Zm9ybSI6IldlYiIsInJlZmVycmFsTW9kZSI6InZpZXcifX0%3D&e=Cr4Tv7

CONTRIBUTION NOTES:

If the team members' contributions to the coursework **ARE** equal:

- Enter the word "equal" against each team member's name in the *Contribution* column above.

1 COURSEWORK TEMPLATES

Coursework Templates must be utilised in the design, description and critical analysis of the User Interaction/ User experience design and testing of the prototype.

Week 2 Visual Design Lecture:

Template 1: Visual Design Overview

•Fonts				
•Layout				
•Colours				
•Animation				
•Basic	Principles	and	Good	Video
•Interface		for		Design
•Design				widgets
•Gestures				Trends

Template 2: Basic Principles for Good Design

1.			Visibility
2.			Affordance
3.		Good	mapping
4.			Feedback
5.			Constraints
6.			Contrast
7.			Consistency
8.			Alignment
9. Proximity and grouping			

Week 3: Interaction design:

Template 3: Holistic User Experiences

1. Sensual (how absorbed someone is with technology (a game, mobile etc.)
2. Emotional (sorrow, joy, anger, happiness) - angry because something fails, want a phone model, but they are so expensive (emotive)
3. Compositional (how a journey fits together – e.g. online shopping can be a frustrating process), and
4. Spatio-temporal (time – moving or standing still, space – public or private)

Template 4: Usability Goals:

1. "effective to use (effectiveness)
 2. Efficient to use (efficiency)
 3. Safe to use (safety)
 4. Having good utility (utility)
 5. Easy to learn (learnability)
 6. Easy to remember how to use (memorability)"
-

Template 5: User Experience Goals, Desirable and Undesirable aspects of User Design.

Desirable

Satisfying	Helpful	Fun
Enjoyable	Motivating	Provocative
Engaging	Challenging	Surprising
Pleasurable	Enhance Sociability	Rewarding
Exciting	Supporting Creativity	Emotionality Fulfilling
Entertaining	Cognitively stimulating	

Undesirable

Boring	Unpleasant
Frustrating	Patronizing
Making One feel guilty	Making one feel stupid

Annoying	Cutesy
Childish	Gimmicky
Entertaining	

Week 4 Information Architecture:

Template 6: Metadata

Template 7: LATCH

Template 8: Information Seeking

Week 5 Cognitive Aspects:

Template 9: Cognitive processes

1. attention
2. perception
3. memory
4. learning
5. reading, speaking and listening
- 6 problem-solving, planning, reasoning, and decision-making.

Week7 testing and evaluation.

Template 10: Usability Problems

- Might annoy or displease users.
(SATISFACTION)
- Might prevent users from finishing tasks in a reasonable timeframe (EFFECTIVENESS & EFFICIENCY)
 - Might make users misunderstand something. (EFFECTIVENESS & EFFICIENCY)

- Might be difficult to understand, figure out, or learn.
(EFFECTIVENESS & EFFICIENCY)

Words, phrases, or names (on the interface) that:

- Users don't understand.
- Users misunderstand.
- Have different meanings to different people.
- Users just don't like or will not use.

Tasks that users may want to do:

- But can't do.
- But take a long time to finish.
- But can't achieve without help or hints
- But are not intuitively logical for them
- e.g., wrong order of doing things.

Template 11: cognitive walkthrough process questions:

1. Does the user understand that a specific action is required to achieve their goal?
2. Is the action visible and will the user notice that the correct action is available?
3. Will the user recognise the action as the correct one?
4. Does the user get appropriate feedback, and will they understand it?

Template List	12:	Heuristic of	Evaluation	(HE)
•	H1.	Visibility	of system	status
•	H2.	Match	between system and the real world	
•	H3.	User control	and	freedom
•	H4.	Consistency	and	standards
•	H5.	Error		prevention
•	H6.	Recognition	rather than	recall
•	H7.	Flexibility	and efficiency	of use
•	H8.	Aesthetic	and minimalist	design
•	H9.	Help users recognise, diagnose and recover from errors.		
•	H10.	Help	and	documentation

Also To help you further you can [Check out Jakob Nielsen's 10 Usability Heuristics for User Interface Design and download the poster](#)

2.1 – 2.5 VISUAL DESIGN

2.1

INSPIRATION

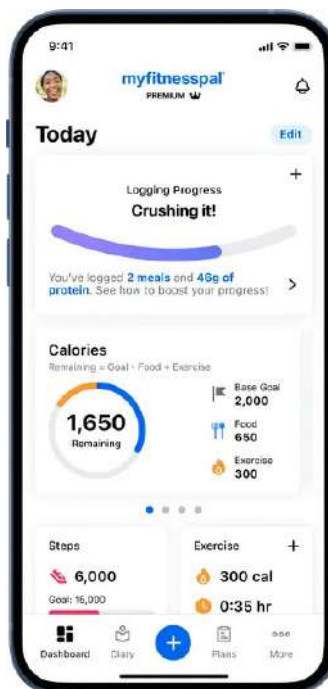
SCREENSHOTS

Complete this section in accordance with the coursework marking scheme and workshop tasks.

This section will include screenshots from sites, apps, images or other sources that serve as an inspiration for an aspect of your app design. Describe why each screenshot has been chosen and what aspect will relate to your app. MAXIMUM 5 screenshots.

SCREENSHOT 1 - [Calorie Tracker & BMR Calculator to Reach Your Goals | MyFitnessPal](#)

Enter screenshot 1 here



MyFitnessPal's login interface is clean, user-friendly, and provides a seamless experience for users to access their accounts. The home page of MyFitnessPal has a clean and user-friendly design. This can serve as inspiration for creating an intuitive and visually appealing interface for users.

Source: <https://www.myfitnesspal.com/>

SCREENSHOT 2 - [“Nike Training Club” Workouts | My Favorite Things](#)

Enter screenshot 2 here



Nike Training Club offers a vast library of workouts categorized by type, duration, and intensity, making it easy for users to find suitable exercises. Implementing a similar workout library in our app can help users quickly access and select workouts that match their fitness goals. Name Of App: Nike Training Club.

Source: <https://sarasfavoritethings.com/2014/04/27/nike-training-club-workouts/>

SCREENSHOT 3 -[How to Track Steps on an iPhone Using the Apple Health App | Digital Trends](#)

Enter screenshot 3 here



Apple Health provides a clear and intuitive interface for tracking daily steps, displaying progress through easy-to-read graphs and metrics. The steps counting feature in Apple Health can inspire the "Steps" section of our app. By incorporating a similar visual representation of daily steps and progress over time, our app can offer users a straightforward and engaging way to monitor their physical activity.

Source: <https://www.digitaltrends.com/mobile/track-steps-iphone-using-apple-health-app/#dt-heading-how-to-use-apple-health-app-to-track-steps>

SCREENSHOT 4 - [A Beginner's Guide to Using the Free Nike Run Club App on iPhone](#)

Enter screenshot 4 here

14:34

Cancel accounts.nike.com

First Name Surname

Password

X Minimum of 8 characters

X Uppercase, lowercase letters and one number

Date of Birth

Get a Nike Member Reward on your birthday.

☐ Sign up for emails to get updates from Nike on products, offers and your Member benefits.

☒ I agree to Nike's Terms of Use and I confirm I have read Nike's Privacy Policy.

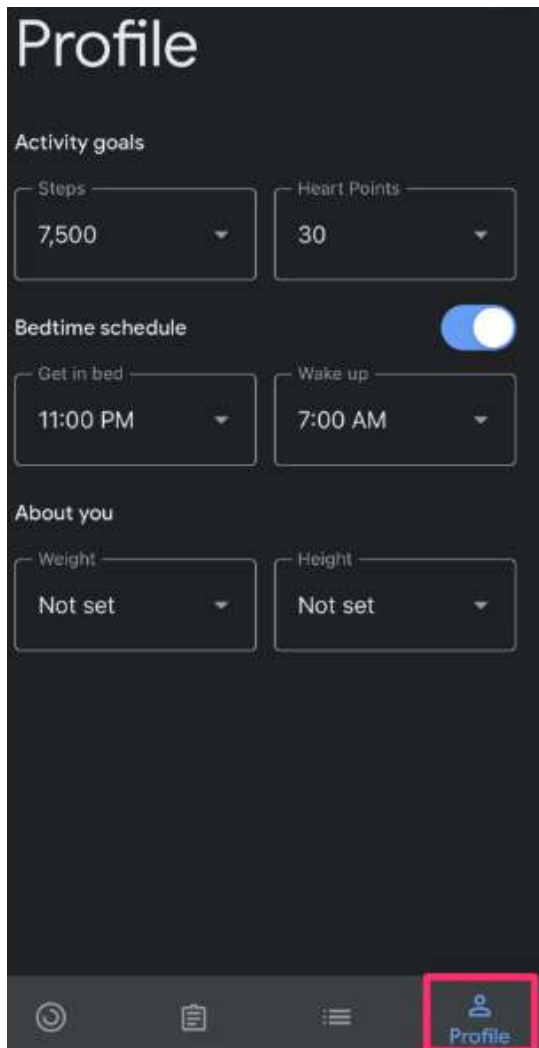
Create Account

The registration form of Nike Run Club app demonstrates a clear and concise design, adhering to principles of usability and accessibility. The inclusion of password requirements and checkboxes for consent ensures compliance and user awareness. By minimizing user effort through straightforward input fields and clear instructions, the form enhances user experience, making account creation efficient.

Source: <https://www.makeuseof.com/beginners-guide-using-nike-run-club-iphone/#:~:text=Open%20the%20Nike%20Run%20Club%20app%20and%20follow,Tap%20Continue%20to%20finish%20setting%20up%20your%20account>

SCREENSHOT 5 - [Google Fit: a Complete Guide to the Fitness-Tracking App](#)

Enter screenshot 5 here



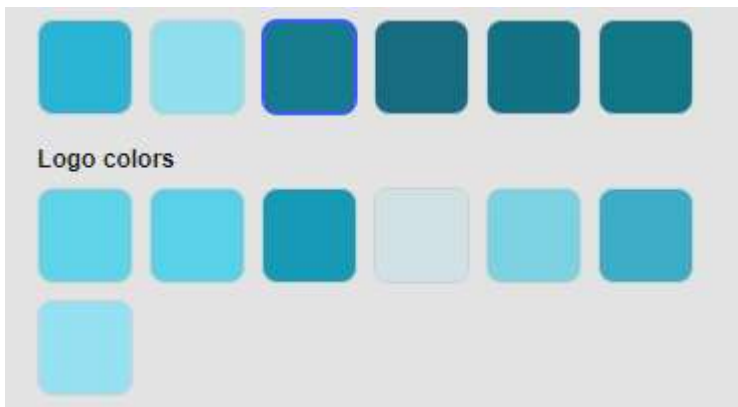
The design of this interface of Google Fit app is user-centric and highly intuitive. By using dropdown menus for activity level selections and avoiding complex inputs, the app makes it easy and stress-free for users to navigate. This approach reduces cognitive load and enhances user satisfaction, ensuring users can focus on their fitness goals without any inconvenience.

Source: <https://www.businessinsider.com/guides/tech/google-fit>

2.2 COLOUR PALETTE SCREENSHOTS

Complete this section in accordance with the coursework marking scheme and workshop tasks. This section will include colour palette screen shots. These are the colours that will be used to define the colours used in your app, or that are prevalent in your game design (e.g. characters, backgrounds etc).

Place colour palette here


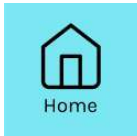


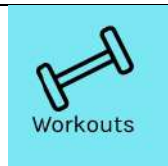
Justification

This blue and teal palette is perfect for a fitness and diet tracker app because it conveys calmness, trust, and energy. It promotes clarity and focus, creating a refreshing user experience. The colours are gender-neutral, appealing to a broad audience, and help establish a cohesive and professional look. Different shades can be used to create a visual hierarchy, enhancing usability and navigation. Overall, this palette supports the app's goals of promoting health and wellness in an inviting and trustworthy manner.

2.3 LOGOS, ICONS, CHARACTERS, PROPS, BACKGROUNDS

Complete this section in accordance with the coursework marking scheme and your workshop tasks. This section will include draft logos, icons, characters, props, backgrounds etc., that will be used as part of your app design.

Enter item 1 here	
Enter your supporting comments here: - The logo features a muscular silhouette flexing both arms, symbolizing strength and fitness. The teal background and lighter shade of teal for the silhouette create a vibrant and energetic look. This design visually represents the app's focus on fitness tracking and health monitoring, making it easily recognizable and appealing to users interested in fitness.	
Enter item 1 here	
Enter your supporting comments here: - The house icon is simple and universally recognizable, making it easy for users to identify the home or main screen of the app. Using a house symbol for the home screen helps users quickly understand its function (navigate to main home page of the app).	
Enter item 1 here	



Enter your supporting comments here: -

The dumbbell icon effectively represents fitness and exercise, aligning well with the app's focus on workouts.

This icon clearly communicates the section's purpose, making it intuitive for users to navigate to their workout routines or plans.

Enter item 1 here



Enter your supporting comments here: -

This image is chosen as the background of first few pages of the app because the image shows a person lifting a barbell in a gym setting, which immediately conveys the theme of fitness and strength training.

Using an image of someone engaged in weightlifting highlights the app's focus on physical activity and can motivate users by showcasing the effort and dedication involved in fitness.

The image captures a moment of exertion and focus, which can inspire users to push their limits and stay committed to their fitness goals.

Enter item 1 here



Enter your supporting comments here: -

A bell icon with a small red dot to show unread notifications. The icon is simple and easily recognizable.

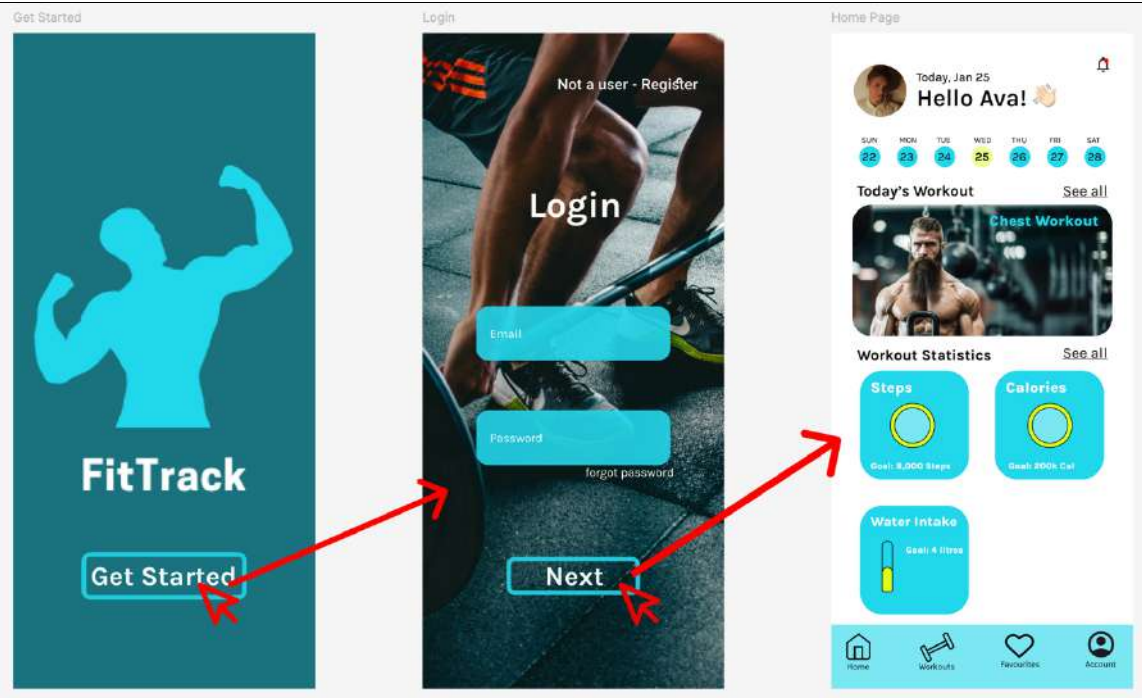
The bell symbol is widely understood as a notification indicator, and the red dot provides a clear visual cue for new alerts.

2.4 – 2.5 MEDIUM FIDELITY PROTOTYPE

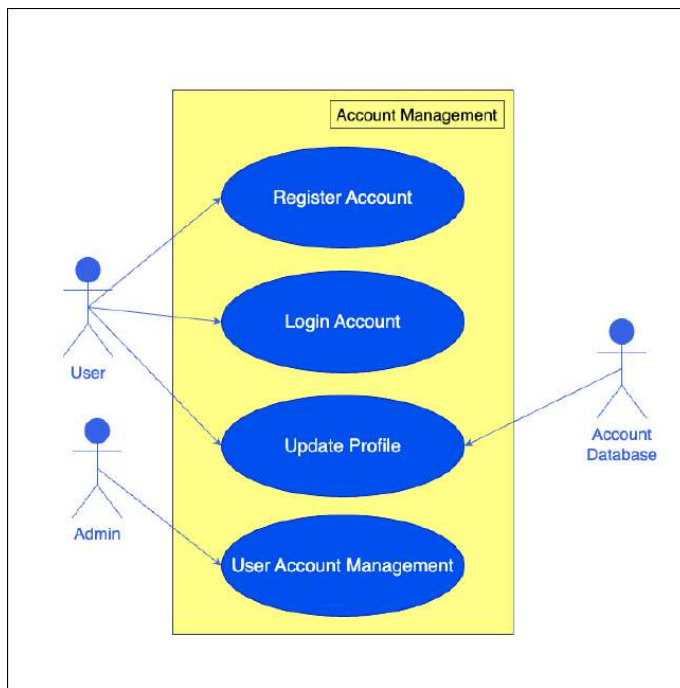
Complete this section in accordance with the coursework marking scheme and your workshop tasks.

Accessible link to the prototype: https://kingstonuniversity-my.sharepoint.com/:v:/g/personal/k2427057_kingston_ac_uk/EbmxM-Xt2F9Ii9ySUNKZs6UB7ku5vT5f_sBQv3pcr-9SHA?nav=eyJyZWZlcnJhbEluZm8iOncicmVmZXJyYWxBcHAiOiJTdHJlYW1XZWJBcHAiLCJyZWZlcnJhbFZpZXciOiJTaGFyZURpYWxvZy1MaW5rliwicmVmZXJyYWxBcHBQbGF0Zm9ybSI6IldlYiIsInJlZmVycmFsTW9kZSI6InZpZXcifX0%3D&e=Cr4Tv7

A presentation of 4 clickable walkthroughs that enable a user to achieve 4 different goals.

Aim/Goal of walkthrough 1
Enable users to securely log into their account
Relevant functional requirements
Login Account
Provide a set of annotated screenshots that illustrate this walkthrough

Supporting evidence:

Use Case Diagram



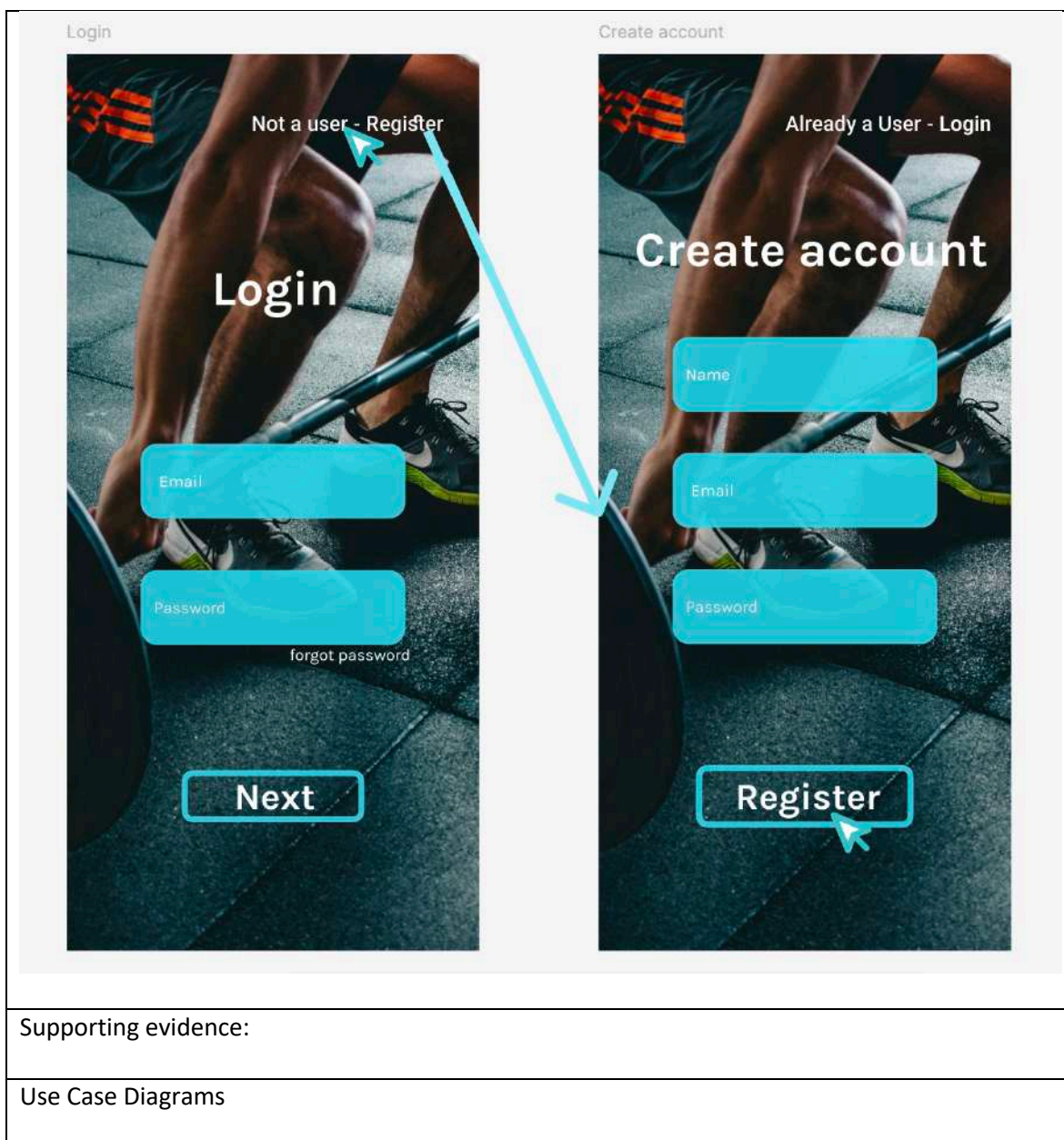
Aim/Goal of walkthrough 2

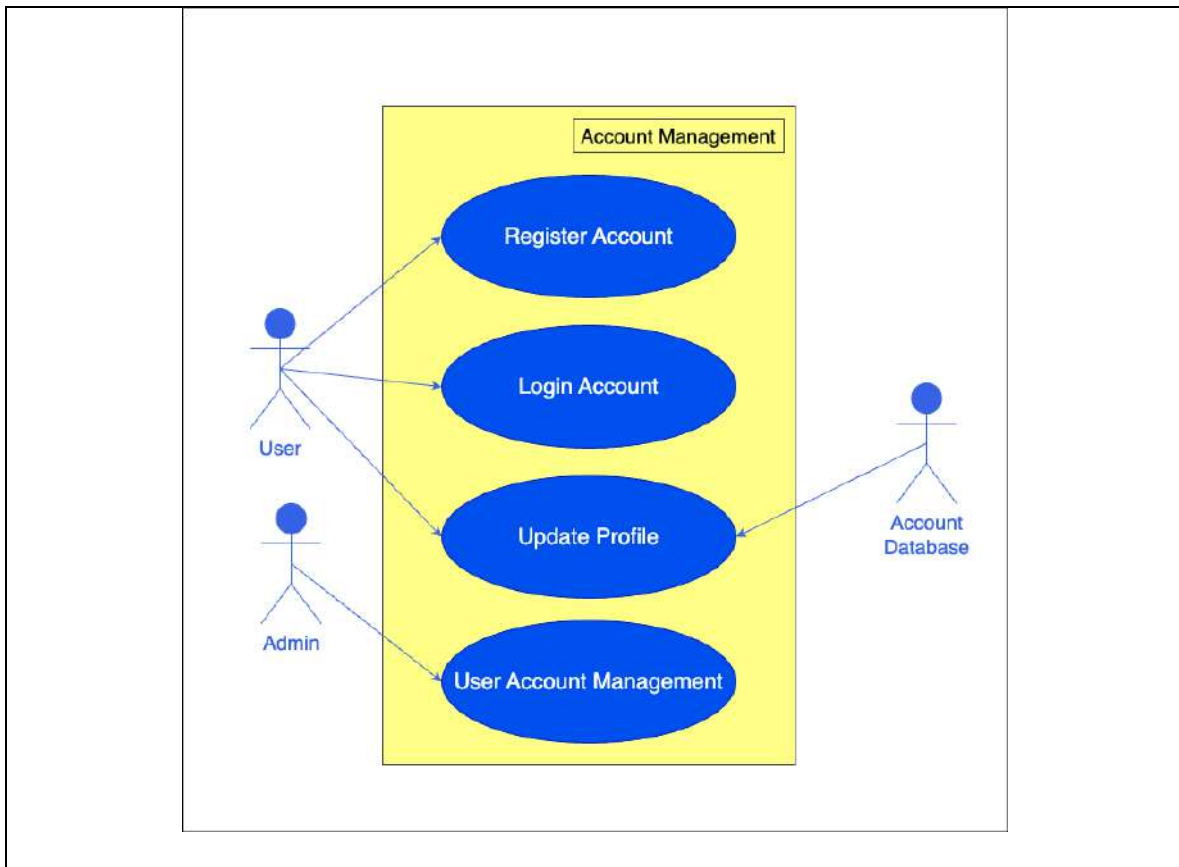
Allow users to create a new account

Relevant functional requirements

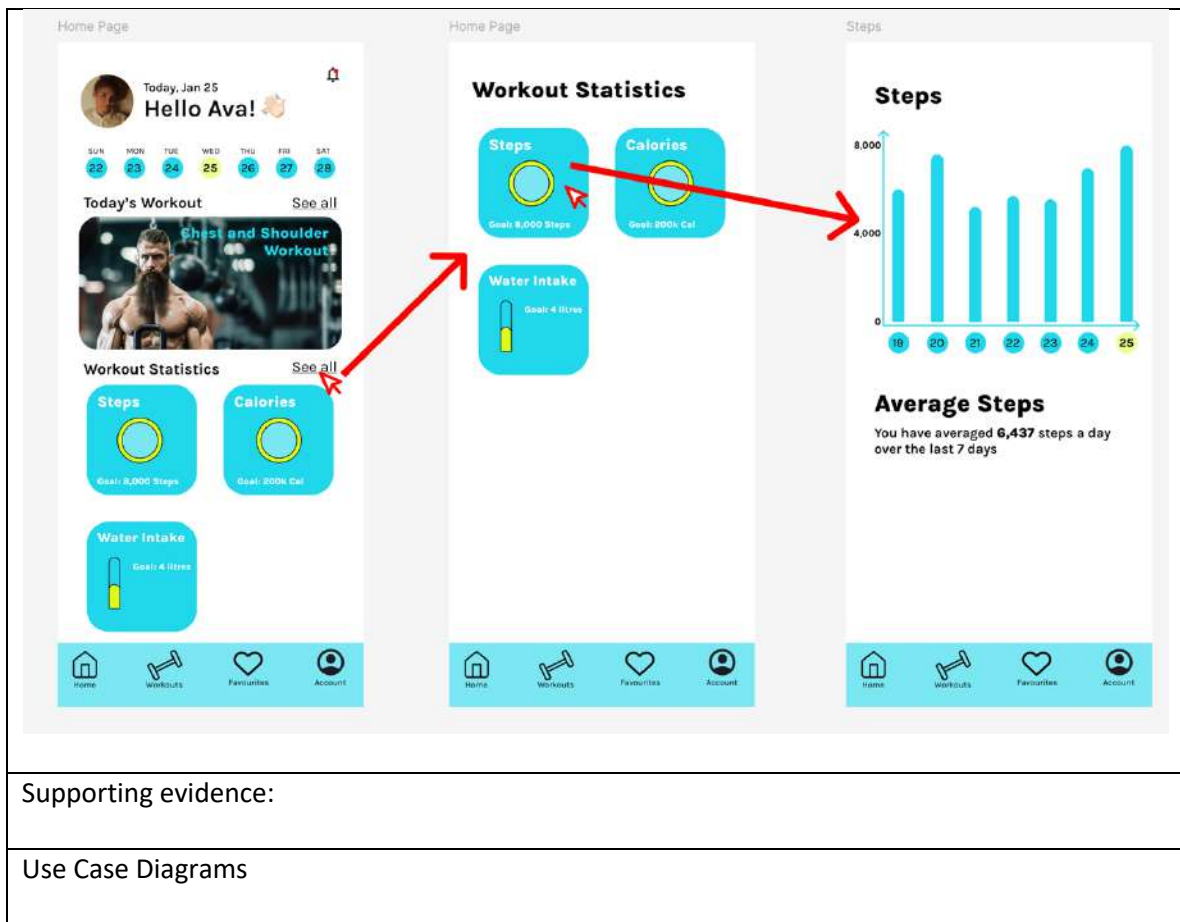
Register Account

Provide a set of annotated screenshots that illustrate this walkthrough



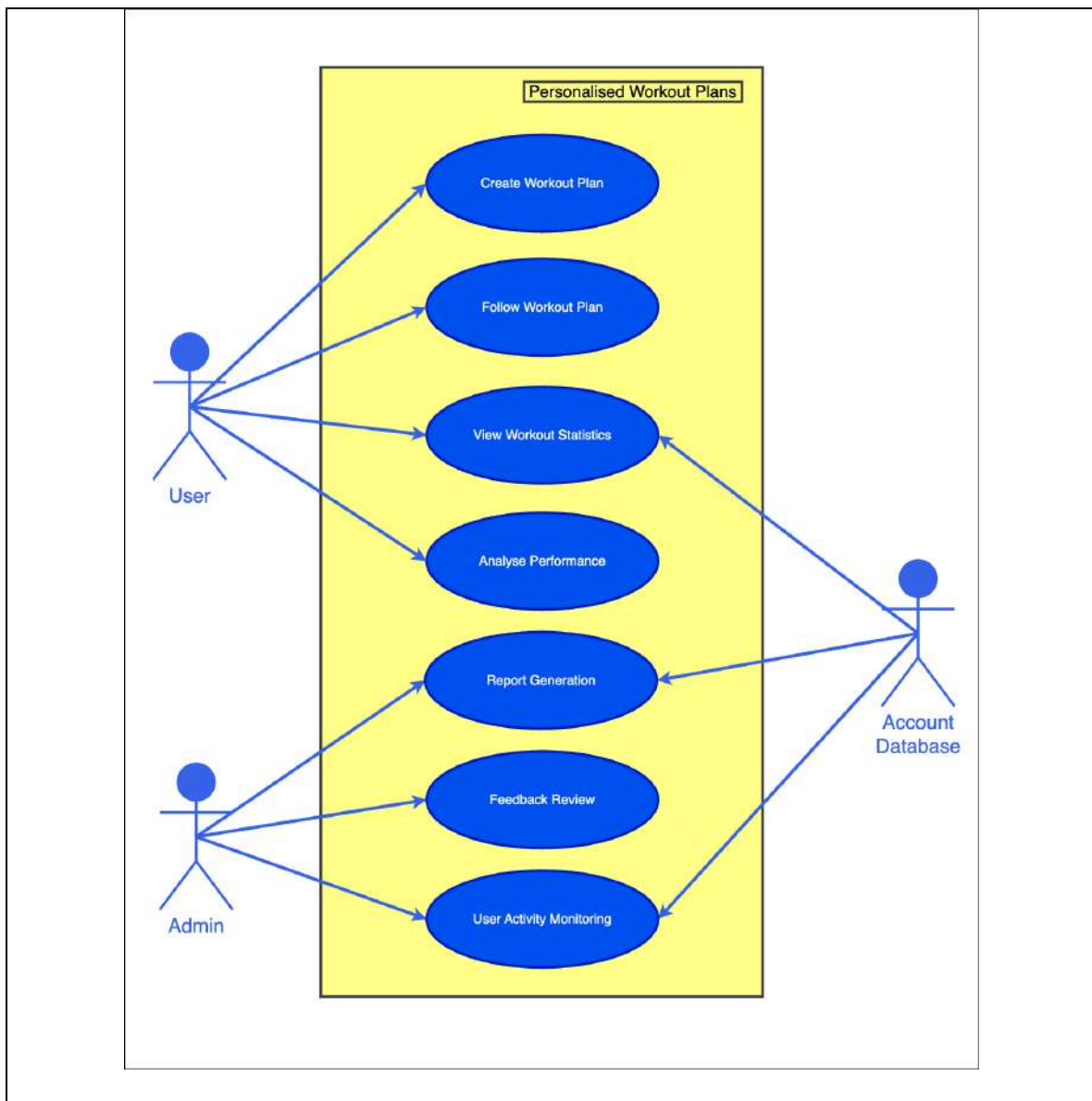


Aim/Goal of walkthrough 3
Provide detailed statistics on users' workouts
Relevant functional requirements
View Workout Statistics
Provide a set of annotated screenshots that illustrate this walkthrough



Supporting evidence:

Use Case Diagrams



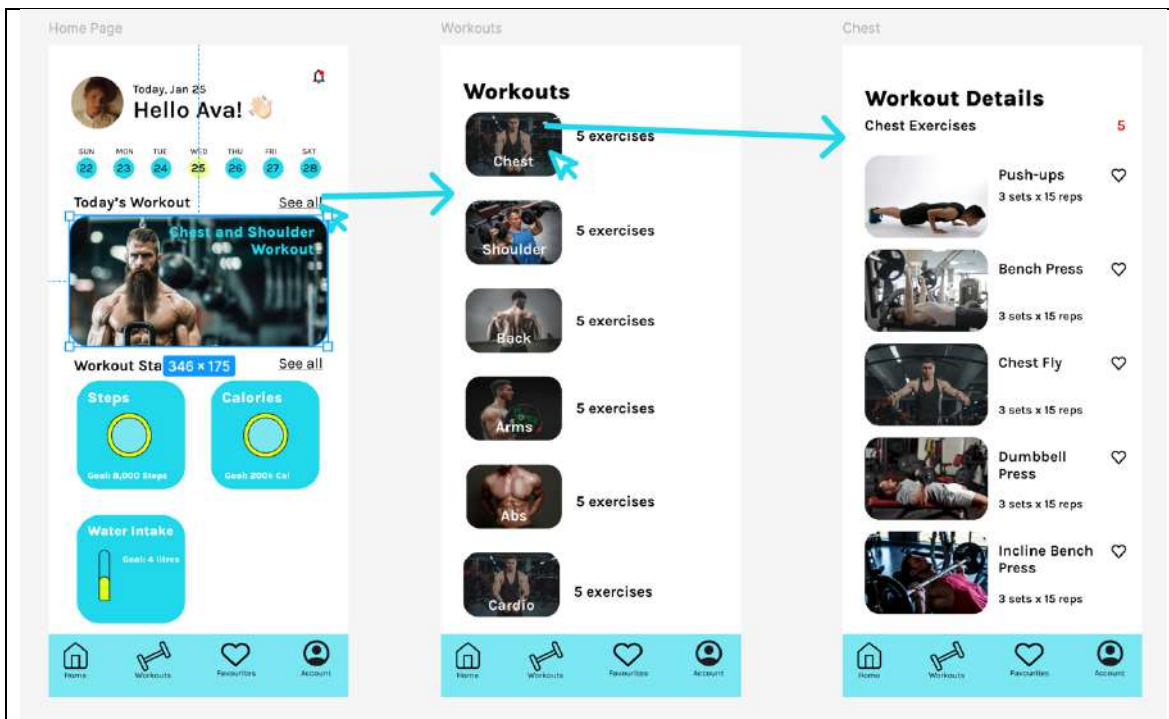
Aim/Goal of walkthrough 4

Enable users to follow pre-designed or custom workout plans

Relevant functional requirements

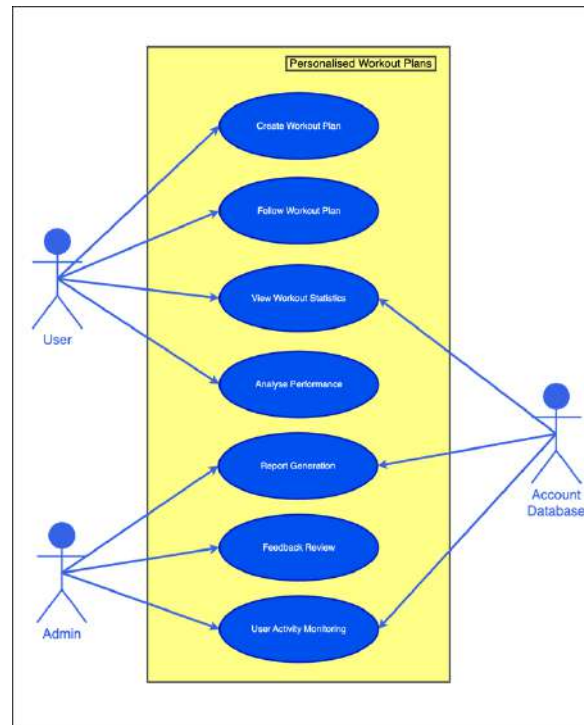
Follow Workout Plan

Provide a set of annotated screenshots that illustrate this walkthrough



Supporting evidence:

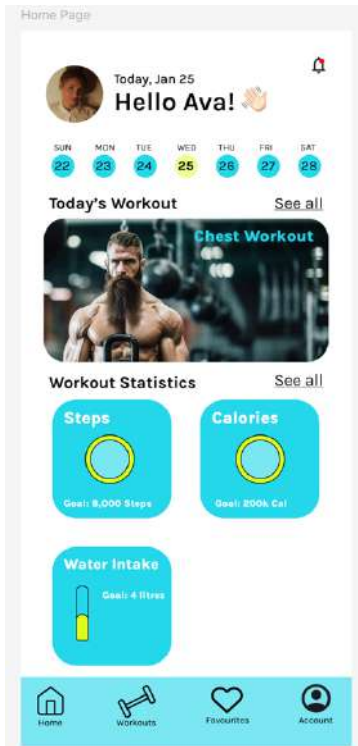
Use Case Diagrams



LATCH THEORY IMPLICATIONS

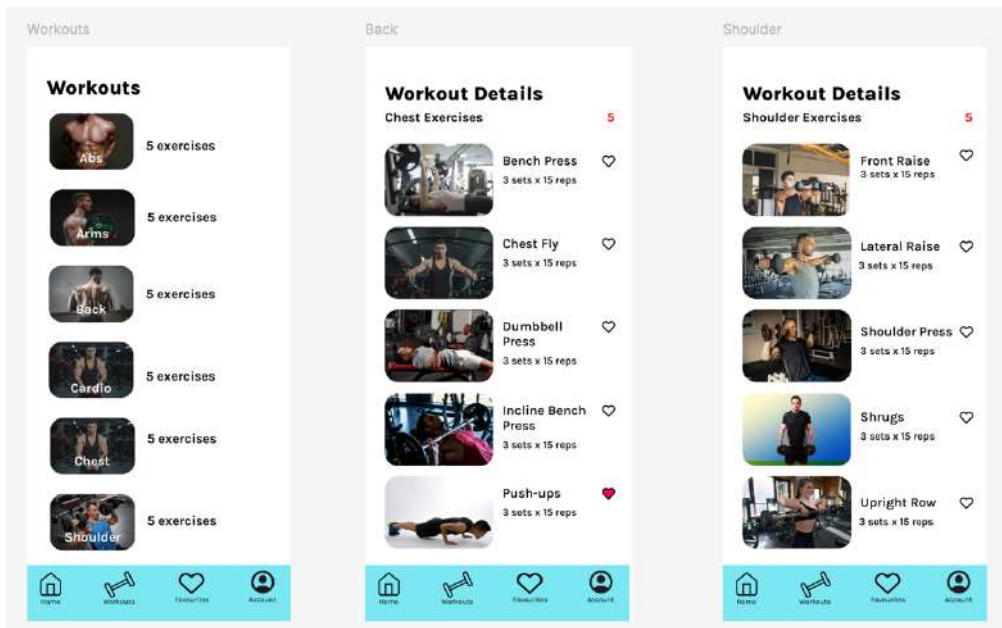
1. Location

In this home page screenshot, the navigation bar is strategically placed at the bottom of the screen, aligning with the LATCH theory's principle of Location. This placement ensures easy access and visibility for users, enhancing the overall user experience.



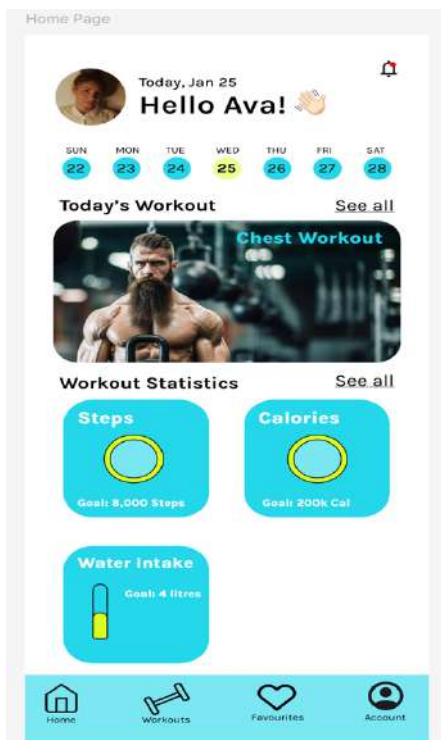
2. Alphabet

Additionally, the workouts are organized in alphabetical order, following the LATCH theory's principle of Alphabet. This makes it easier for users to find specific exercises quickly.



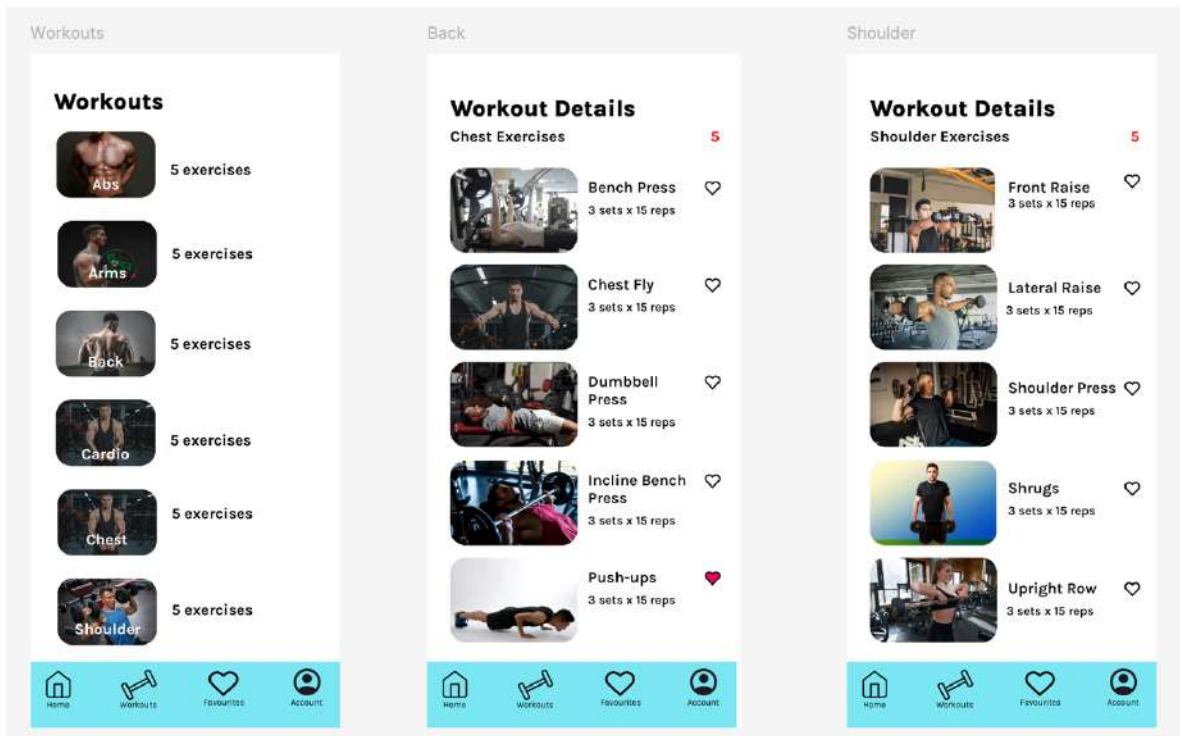
3. Time

The dates and days are displayed in chronological order, adhering to the LATCH theory's principle of Time. This helps users keep track of their workout schedule and progress. The calendar shows the days of the week from Sunday to Saturday, with the current day highlighted.



4. Category

The workouts are categorized according to the part of the body, following the LATCH theory's principle of Category. This organization allows users to easily find exercises targeting specific body parts.



2.6 – 2.8 HEURISTIC EVALUATION

Complete this section in accordance with the coursework marking scheme.

Problem ID	Rich Description, referenced action in prototype, related documents	Heuristic ID	Severity Rating
P1	Users are unable to input their daily diet and exercise activities, which affects their ability to track and manage their health goals.	H7 - Flexibility and efficiency of use	3 (Major usability problem: high priority)
P2	Users are unable to customise layout of app to better suit their workflow	H3 - User control and freedom	4 (Major usability problem: high priority)
P3	Users are unable to go back to the previous page once clicked a link or button. This disrupts the user's flow and may cause frustration.	H3 - User control and freedom	5 (Major usability problem: high priority)
P4	Users can't enable or disable specific features based on their preferences	H3 - User control and freedom H7 - Flexibility and efficiency of use	3 (Major usability problem: high priority)
P5	Users are unable to remove favourites. This limits their ability to customize and manage their experience.	H7 - Flexibility and efficiency of use	2 (Minor usability problem: low priority)
P6	There are no options for users to connect with friends and share progress, limiting the social interaction and motivation aspects of the app.	H8 - Aesthetic and minimalist design	4 (Major usability problem: high priority)

2.9 – 2.10 CRITICAL REVIEW AND DESIGN RECOMMENDATIONS

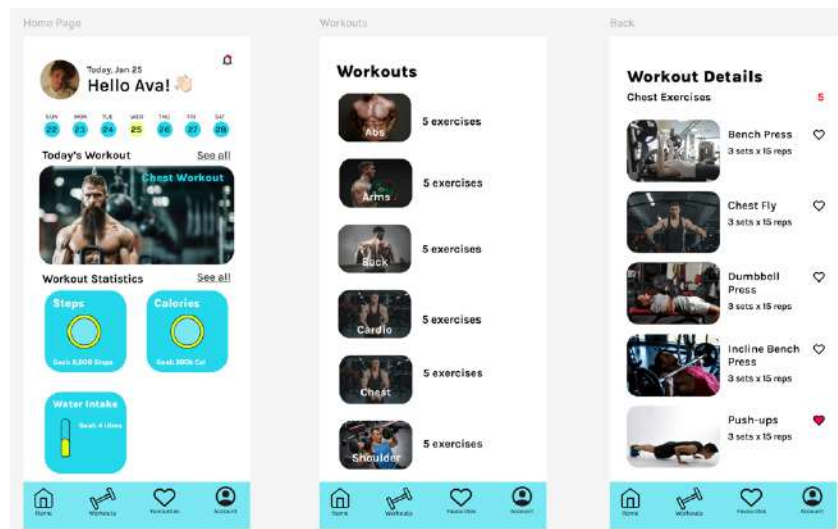
Complete this section in accordance with the coursework marking scheme.

Redesign recommendation 1: Back Navigation functionality

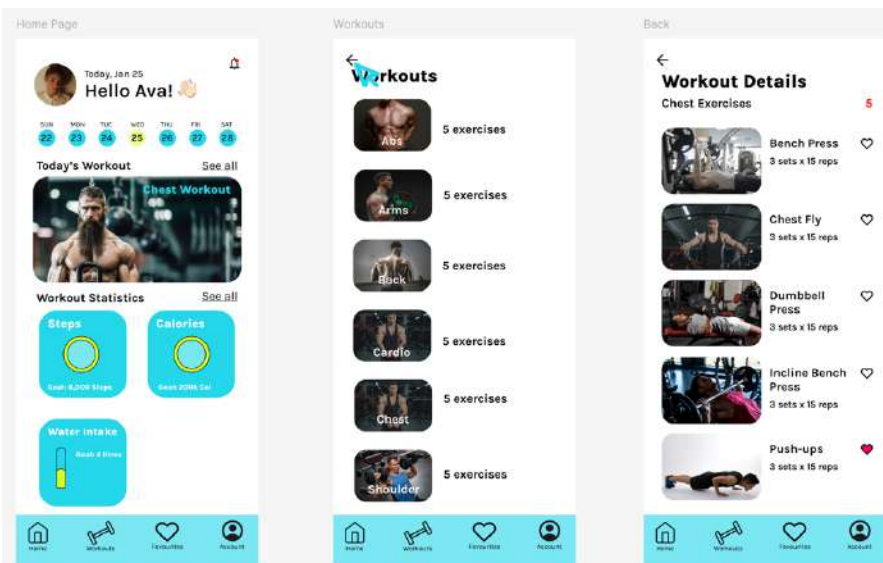
Recommendations in bullet points

- Implement a back navigation feature that allows users to return to their previous page

Before:-



After:-



<p>The prototype has been updated to include back symbols on every page. This addition allows users to easily navigate to the previous pages, enhancing the overall usability of the app. Previously, the app did not have this feature, making it less intuitive for users to go back to previous screens.</p> <p>Justification by reference to evaluation</p> <ul style="list-style-type: none"> • Enabling back navigation will improve user experience by providing more control over app navigation and making it easier to correct mistakes or revisit previous information.
Redesign recommendation 2: Social Integration features
<p>Recommendations in bullet points</p> <ul style="list-style-type: none"> • Add social features such as friend challenges. <p>Justification by reference to evaluation</p> <ul style="list-style-type: none"> • Social integration can motivate users through friendly competition and support, fostering a sense of accountability. • However, we did not have the necessary knowledge and skills to implement social integration features effectively. Creating and maintaining such features requires a deep understanding of social networking APIs, data security, and user interaction design, which were beyond our expertise.
Redesign recommendation 3: Customisable Layout options
<p>Recommendations in bullet points</p> <ul style="list-style-type: none"> • Introduce customisable layout options that allow users to personalise app interface to better suit their workflow. <p>Justification by reference to evaluation</p> <ul style="list-style-type: none"> • Allowing users to customise the layout will enhance their experience by making the app more adaptable to individual preferences and needs, leading to increased satisfaction and usability. • However, we did not have the necessary knowledge and skills to implement customizable layout options effectively. Creating such features requires a deep understanding of user interface design principles, dynamic layout management, and user preference handling, which were beyond our expertise.
Redesign recommendation 4: Food Diary Functionality
<p>Recommendations in bullet points Improved</p> <ul style="list-style-type: none"> • Enhance the Food Diary feature to allow users to log actual food intake and track nutrition more easily, in addition to inputting dietary preferences. <p>Justification by reference to evaluation</p> <ul style="list-style-type: none"> • Providing a more comprehensive and user-friendly Food Diary will enable users to accurately track their nutrition, leading to better dietary management and overall health outcomes.

- However, based on user feedback and evaluation, it was determined that other features, such as workout tracking and progress monitoring, were more critical to the overall user experience. The decision was made to prioritize these core functionalities to ensure they were well-developed and met user needs. Enhancing the Food Diary feature was considered a lower priority at the time and was deferred for future updates.

TEAM CONCERN STATEMENT

This section only needs to be completed if you have concerns regarding:

- Loss of contact with a team member
- Limited contributions to teamwork
- Non-submission of individual work

Please complete the details below.

KU Number	Lost contact?	Contribution to group work (%) Enter an estimate between 0% and 100%.	Attended meetings?	Received individual course work?
K2427057	NO	100%	YES	NO
K2426185	NO	100%	YES	NO
K2409497	NO	100%	YES	NO
K2235035	NO	100%	YES	NO
K2410248	YES	0%	NO	NO

Where subsequent concerns are clarified, the marks for the contributing members of the group will not be affected.