



Global Bachelor's Degree
Final degree Thesis (TFG)

Business project

“PerfectForm”

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Thank you to my tutor for his valuable guidance and experience throughout
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To my parents for supporting me all these years.

ABSTRACT

This business plan presents PerfectForm, a revolutionary fitness technology startup based in London, United Kingdom. PerfectForm leverages advanced AI and motion tracking to transform gym workouts, ensuring safety and efficiency for users. Our proximity to a vibrant tech community and our dedication to innovation sets us apart. By integrating real-time form correction and customised training programs, we aim to minimise injuries and maximise workout effectiveness. Our strategy involves offering a freemium model with a comprehensive premium subscription, making high-quality personal training accessible and affordable. PerfectForm is poised to lead a global fitness revolution, setting new standards for workout safety and personalization. Through continuous technological advancements and a strong community focus, our goal is to become a key player in the fitness tech industry, transforming the way people approach their fitness journeys.

KEYWORDS

**FITNESS APP, ARTIFICIAL INTELLIGENCE, MACHINE
LEARNING, MOTION TRACKING**

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1. Introduction

1.1 Company Name

PerfectForm is the name of my startup as it reflects the goal and vision of my business.

1.2 Founders Experience

The primary experiences required for the founders are a broad understanding of areas of business such as the ability to sell, marketing, strategic management, and strategic planning for the CEO.

Regarding the technical aspect of the product, the CTO would need experience in machine learning and computer science to handle the backend and frontend of the software.

The CMO experience required would range in a deep understanding of advertising as well as marketing planning using digital social media platforms in order to create a solid community of users.

1.3 Business Idea and Description

When it comes to fitness, today's rapidly evolving world makes several individuals leap into their journey with all the fire and sparkle, ready to transform their existence but confronted with a giant pile of machines and equipment. The gym becomes a maze of works: one pit place available for improvement.

Very few people have matching expertise. Most acquire awful techniques and behaviours, converting the pursuit for health into a dangerous journey paved with hazards. The conundrum is fierce: a location designed to improve becomes a potential source of damage.

Thus, there's an earnest need for agents to solve the issue. However, a personal coach normally occupies this role. But not everyone can afford one, let alone match with our increasingly paced life. Consequently, the lion's part of going to the gym is missing without a graph; creating avoidable blunders with possibly lifelong injury concerns.

That's why I'm introducing PerfectForm. It is a paradigm shift technology saver created to demonstrate a whole new perspective on working out. Imagine an app that is your very own workout buddy, ensuring that you never fall out of track and never get injured.

My solution:

An accessible fitness app that combines AI and Motion tracking for safety in exercise execution with catered training programs for optimum workout efficiency.

1.4 Mission, Vision and Values

Our Mission

To empower individuals to achieve their fitness goals safely and efficiently by harnessing the power of AI and motion tracking technology.

Our Vision

To lead the global fitness revolution by setting new standards for workout safety, efficiency, and personalisation.

Our Values

Innovation & Excellence

Safety & Wellbeing

Personalisation & Empowerment

1.5 Business Objectives and Proposal

A Revolutionary Fitness Experience

With the help of AI and motion tracking technology, enabling real-time and customised advice on the form of an exercise performed in a way that ensures they're executed safely and effectively.

Accessibility and Affordability by providing a scalable solution that not only makes personal training affordable but also accessible to all by removing both the cost and knowledge barriers.

Prevention of injuries: A technology used to decrease the incidence of workout-related injuries by a large fraction through form correction and a well-detailed workout schedule customised for the individual.

Community engagement: Developing a vibrant and supporting community that would motivate users to keep themselves sticking with consistent activity for fitness goals.

Continuous innovation: We intend to have a constant update of our offering based on the latest research findings and technological advancement to be at the cutting edge of fitness technology.

Sustainable Business Growth: Delivering a sustainable, scalable business model that can support continuous investment in technology and user experience.

Business Model

Product Offering

Basic (**Free Version**): Access to a very limited few of very basic workout routines, with a limited version of the AI Personal Trainer Chatbot access.

Premium Subscription (£19.99 per month): This membership allows the user to unlock premium features like a 3D body scan, deep motion tracking, dynamic training selection, customised workout, and stretching programs along with enhanced version of AI personal training.

Revenue Streams

In-app Purchases: Premium subscription fees provide the primary revenue stream.

Data Insights: Offer anonymised aggregate data insights to health and fitness research organisations.

1.6 FDP Objectives

- To understand the emerging technology that is Artificial Intelligence and its subsets through an applicable business use case in the Fitness Industry.
- To leverage online AI tools and how to leverage them intelligently especially for startups with low budgets.

2. Business Activity

2.1 Definition of the Characteristics of the Product/Service

I chose the in-app purchase business, When it comes to monetization, in-app purchases emerge as the dominant revenue model, accounting for 47% of fitness app revenue (Tyler Spraul, 2024) model with monthly subscription as it is the most popular and effective business model that gives my start-up recurring payments throughout time that would allow us to invest faster in more features and constantly develop the app.

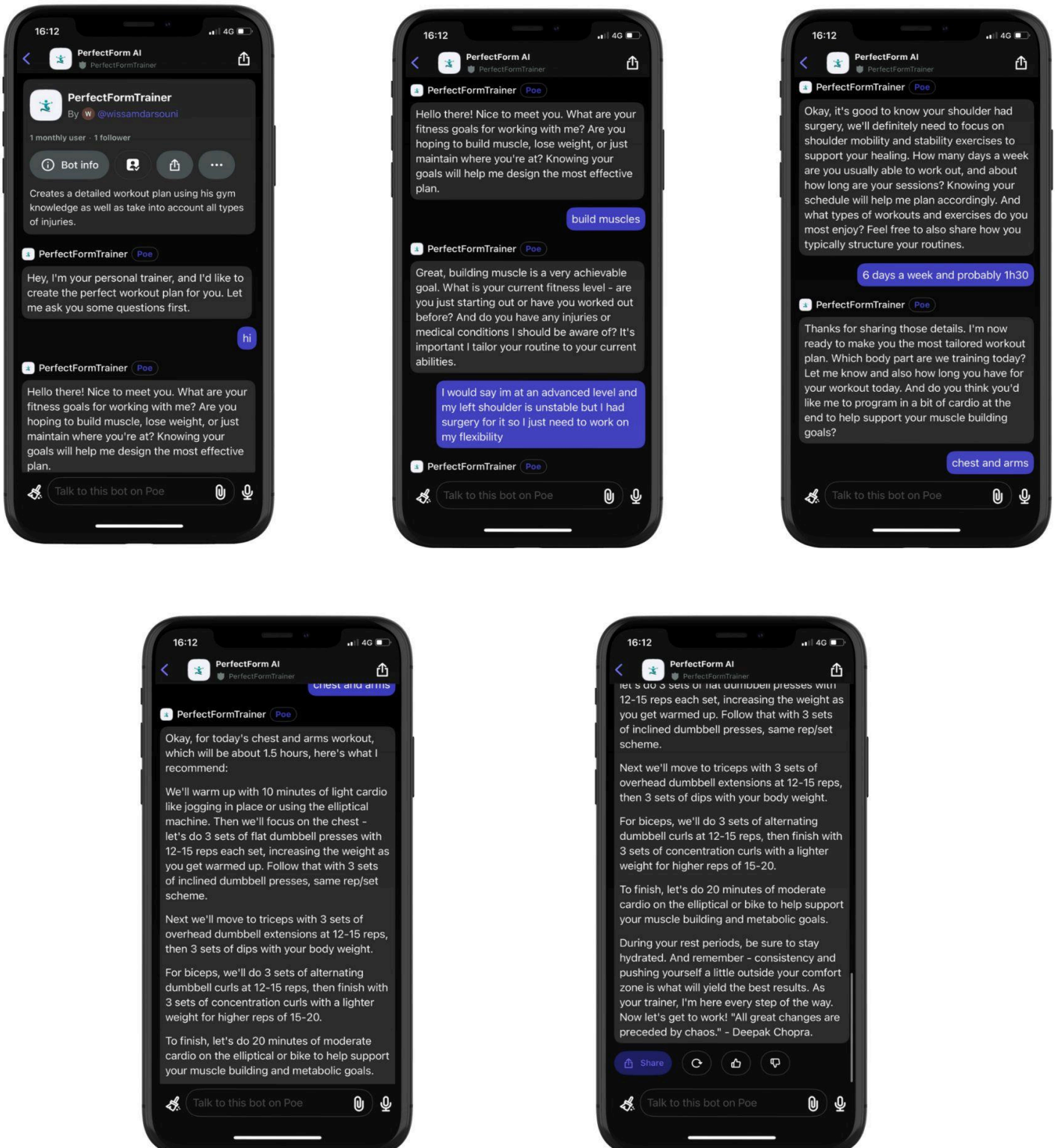
I determined the business model with 2 versions:

- **Basic App Version| FREE**

Personal AI trainer Chatbot

Chatbot with access to our personalised workout routine planner with limited capabilities, as can be seen on Figure 1.

Figure 1 - Personal AI chatbot MVP

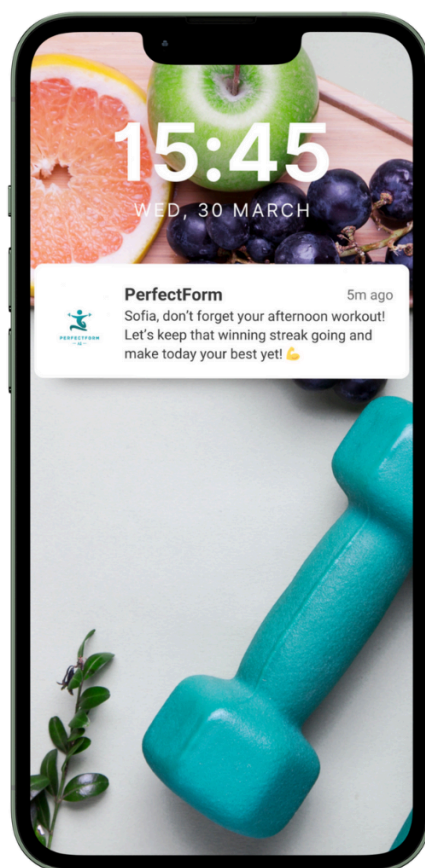


Note. These screenshots represent an example of how the personal trainer would personalise a user’s workout by asking a set of predefined questions, from Poe mobile app (*PoE - Fast, Helpful AI Chat*, n.d.). Own elaboration.

This AI personal Trainer chatbot will empower the user to get a training program tailored to his needs, level and potential injuries.

The capabilities of the AI personal Trainer don’t stop here, it will be a source of motivation and discipline for the user that will receive personalised push notifications as we can experience with apps like “Duolingo” that pushes you to never miss a workout and stay consistent. Here is an example of what kind of notification the user could receive on Figure 2:

Figure 2 - Push Notification from the app.

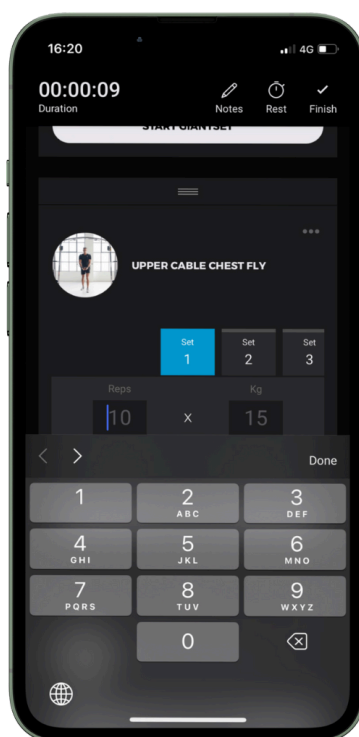


Note. Mockup made with Canva. Own Elaboration

Workout tracking interface

The Workout Tracking Interface in PerfectForm is a user-friendly dashboard within the app that allows users to monitor and record their workouts. It includes features for tracking the duration of exercise sessions with a time recorder and logging the number of sets completed with a set recorder. This interface helps users organise their fitness routines, monitor their progress over time, and stay committed to their fitness goals by providing a clear, structured overview of their workout history.

Figure 3 - App interface layout example



Note. Screenshot of an example of a fitness workout tracking interface, from Gymshark Training mobile app (*Download the Gymshark Training App for IOS or Android | Gymshark Central*, 2024).

- **Premium App Version**

3D Scanning Feature:

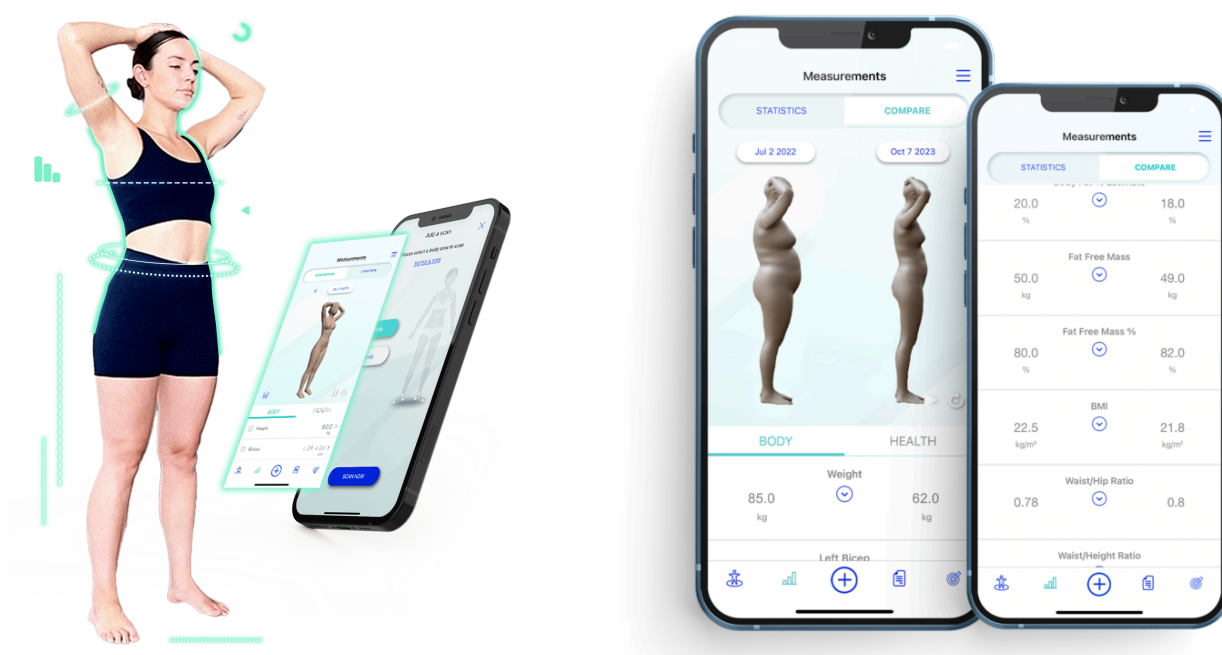
The 3D scanning feature in PerfectForm provides an in-depth analysis of a user's physical form by creating a detailed three-dimensional model of their body. This allows

users to visually track changes and progress over time. By comparing these 3D scans at different intervals, users can see precise changes in their body shape and composition, enhancing their understanding and motivation regarding their fitness journey.

This feature would be possible with a 3rd party company that offers B2B solutions by integrating their technology through an API.

The technology utilises the depth sensor in compatible mobile models to capture thousands of data points to map the contours of the user's body. Bodymapp captures 20 body measurements – including body fat percentage, lean mass, waist, hips, thighs and more – and creates a unique 3D body avatar (Bodymapp, 2024).

Figure 4 - 3D scan Interface demo



Note. Image taken from Bodymapp (Bodymapp, 2024) displaying how the mapping of the body works and the app's interface.

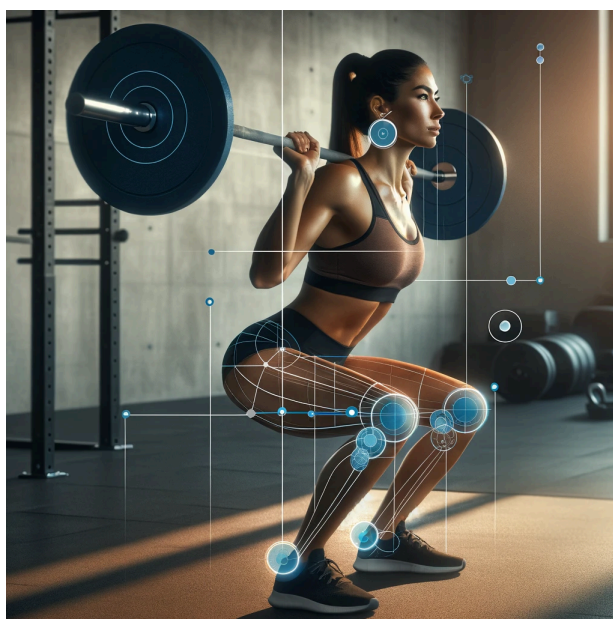
PerfectForm record™ Feature

The PerfectForm record feature uses motion tracking technology to capture and analyse the movements of individuals during exercise. It records how exercises are performed,

ensuring that movements align with optimal forms for safety and effectiveness. This data helps in providing feedback for improvement, much like a digital mirror, allowing users to correct their posture and technique in real-time.

This feature is the core of our app and Unique Value Proposition. The motion tracking will be focused specifically on avoiding injuries for the user by leveraging Deep Learning models catered to that specific pain point.

Figure 5 - Representation of a form analysis during a squat.



Note: This is a representation generated by DALL·E AI, illustrating how Motion's analytics technology tracks motion. [Own Elaboration.](#)

Advanced Personal AI chatbot Feature

An advanced version of the AI personal trainer chatbot with more in depth workout plans and suggestions, by harnessing their fitness level in real-time thanks to the motion tracking analysis.

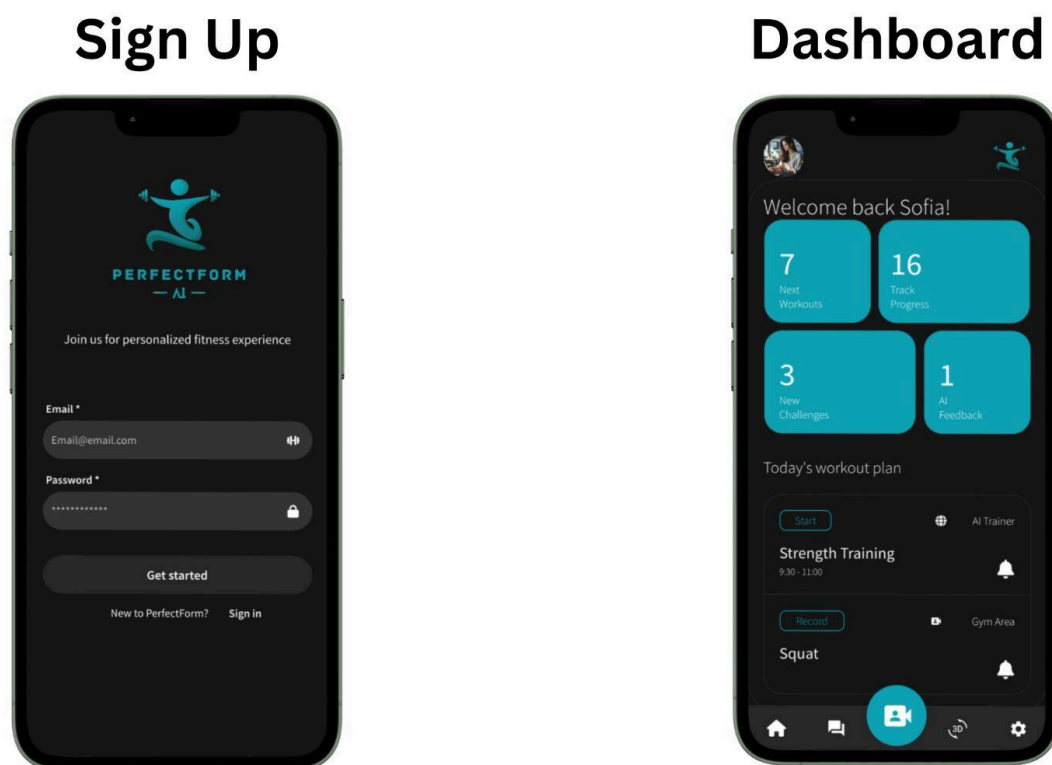
Giving access to the post workout stretching/flexibility session that gives the user a personalised and adapted stretching session based on the workout and exercises done.

More premium features will come as we roll out our app such as diet planning with healthy recipes and tips to eat savoury food whilst staying healthy.

2.2 App interface and User Flow

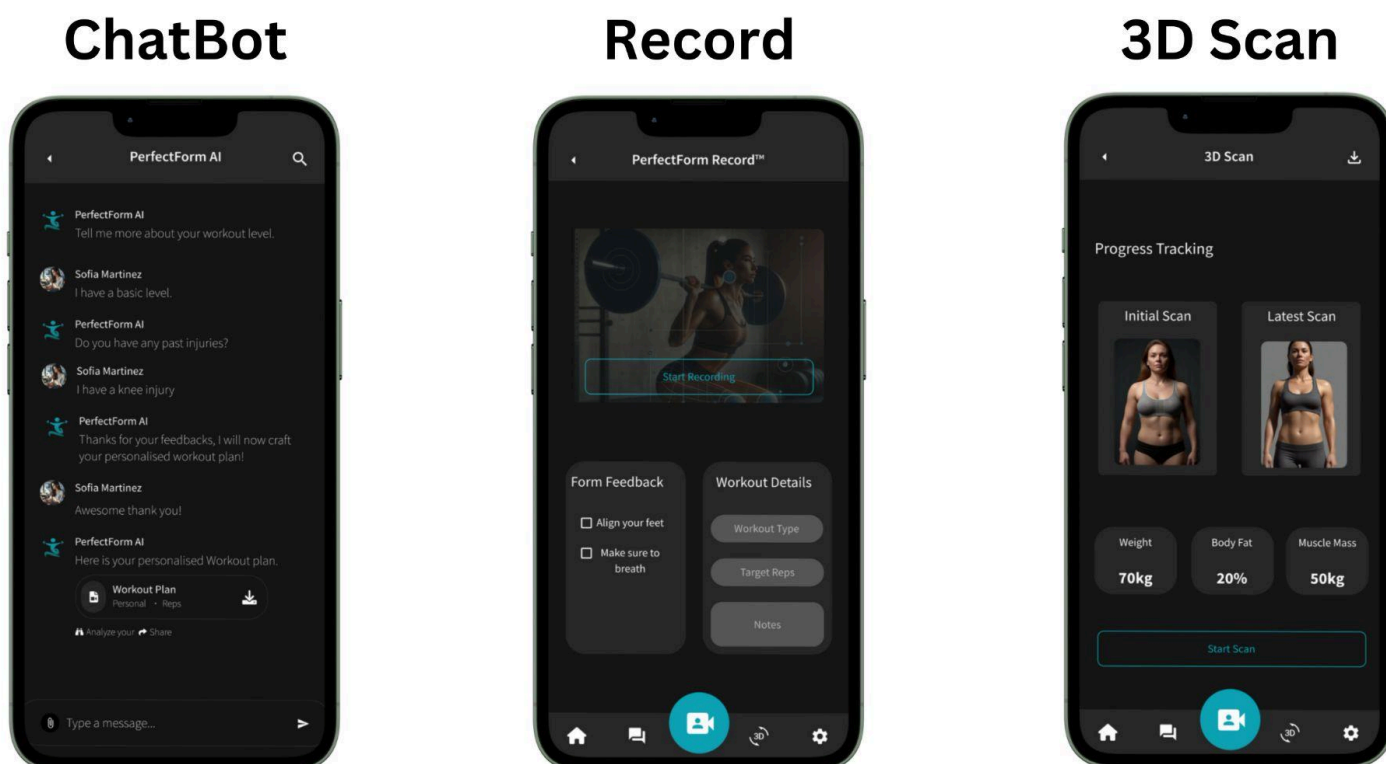
For our App interface, we opted for a user friendly experience so the User can navigate intuitively through it.

Figure 6.1 - User Interface of the APP



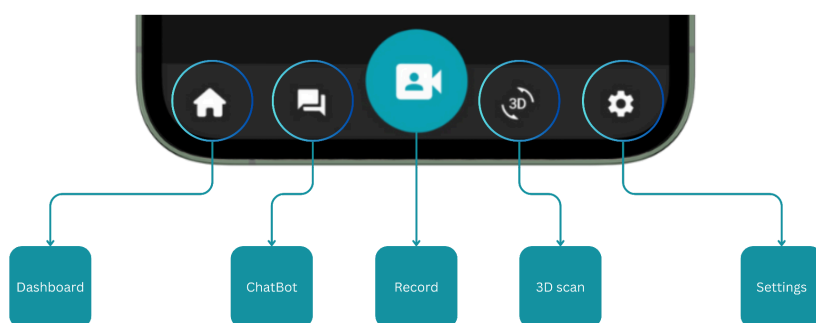
Note. In this first image, we have the sign up interface and the dashboard for the user.
Own Elaboration.

Figure 6.2 - User Interface of the APP



Note. In this second image, we can see how the interface of the 3 main features being the AI personal trainer Chatbot, the recording and 3D body scan would look like in our app. Own Elaboration.

Figure 7 - Tab Bar Icons

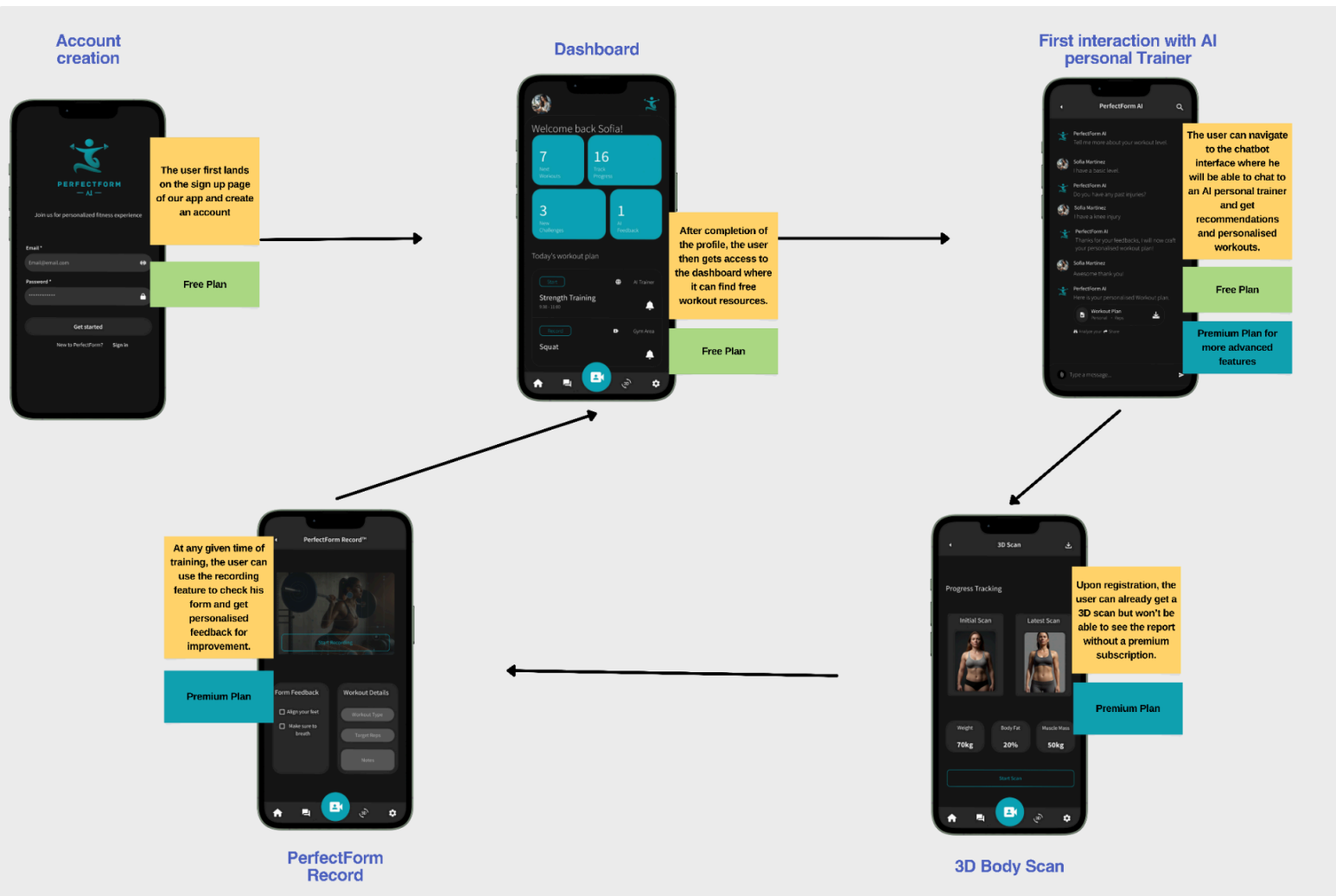


Note. In this third image, the Tab Bar Icons are showcased with their flow role. Own Elaboration.

User Flow

“A user flow is a chart or diagram showing the path a user will take in an application to complete a task.” (*Supercharge Your Product Roadmap With Customer Feedback*, 2021).

Figure 8 - Perfectform's User Flow



Note. This flow explains how the user should be using our app from registration to using it while training. Own Elaboration.

2.3 Target Market and Needs Covered

I used the Empathy map framework to cover my customer's needs and pain and gains.

“The Empathy map is defined as a template that organises a user's behaviours and feelings to create a sense of empathy between the user and your team. The empathy map represents a principal user and helps teams understand their motivations, concerns, and experience” (Velázquez, 2024).

1. WHO are we emphasising with?

Person: Fitness enthusiasts ages 25 to 34+, with a higher proportion of women (65%) than men (35%).

Situation: Seeking to improve their workout efficiency and form to prevent injuries and maximise muscle growth.

Role: Active gym-goers, health-conscious individuals, technology adopters.

2. What do they need to DO?

Differently: Adapt new technology to monitor and improve their workout form.

Job(s) to get done: Achieve efficient and safe workouts, learn and adapt better workout forms, prevent injuries.

Decision(s): Choose a reliable app/service that helps in guiding them through proper workout forms.

Success Indicator: Improvement in workout form, achieving fitness goals, reduced injuries.

3. What do they SEE?

Marketplace: Various fitness apps, some with AI features, personal trainers, workout equipment.

Immediate Environment: Gyms, fitness equipment, fellow gym-goers, personal trainers.

Others Saying and Doing: Sharing workout progress on social media, discussing fitness apps, following fitness influencers.

Watching and Reading: Fitness blogs, workout tutorials, reviews, and ratings of fitness apps.

4. What do they SAY?

Heard Saying: “I wish I had a way to know if my form is correct to prevent injuries.”

Imagined Saying: “This app helps me ensure that my workouts are efficient and safe.”

5. What do they DO?

Today: Regular workouts at least three times a week, use fitness apps, share fitness journeys on social media.

Observed Behaviour: Recording workouts, seeking feedback, following a structured workout plan.

Imagined Doing: Using my app to get real-time feedback on their workout form, sharing their progress using the app on social media.

6. What do they HEAR?

Others Say: Recommendations for fitness apps, discussions on workout efficiency and safety.

From Friends: Sharing experiences with different fitness apps, personal trainers.

From Colleagues: Discussions on the latest fitness tech, AI, and its impact on personal training.

Second-hand: Success stories of improved workout efficiency and safety using tech.

7. What do they THINK and FEEL?

PAINS

Fears: Getting injured, wasting time on inefficient workouts.

Frustrations: Not knowing if they are doing the exercises correctly, lack of personalised guidance.

Anxieties: About the privacy of their data, especially video recordings.

GAINS

Wants: Tailored workout plans, clear guidance on achieving proper workout form.

Needs: Assurance of data security and privacy.

Hopes: Achieving their fitness goals, preventing injuries.

Dreams: Maximising muscle growth, being part of a community that values efficient and safe workouts.

2.4 User Persona Profile

Figure 9 - Fictive User Persona “Sofia Martinez”



Note. This is a representation generated by DALL·E AI. Own Elaboration

Name: Sophia Martinez

Age: 29

Gender: Female

Occupation: Digital Marketing Manager

Education: Bachelor's degree in Marketing

Income: Above-average, fits into the medium to high income bracket

Demographics: Sophia represents the primary demographic of your app, a young professional between the ages of 25 and 34. This age group is the most active on health and fitness apps, which fits the 50% user base of such apps according to a report by Flurry Analytics.

Psychographics: She's motivated by effectiveness and safety in her workouts. Like many in her demographic, Sophia wants to avoid injury which could derail her fitness progress. She values a balanced lifestyle, which includes maintaining health and an active social life.

Behavioural Traits: She works out at least three times a week, preferring high-intensity gym sessions. Sophia has experience with fitness apps, which is in line with a report from Statista showing increasing adoption rates of fitness apps among gym-goers.

Goals: Sophia wants to achieve efficient workouts with correct form to maximise muscle growth and minimise injury. This desire for efficiency and safety is supported by a 2018 report from the National Safety Council that highlighted the importance of correct form to prevent workout injuries.

Technology Use: She's an early adopter of technology, comfortable with AI, and uses her smartphone for health and fitness apps. She's part of the 65% majority who prefer to use smartphones for fitness tracking, as noted in a survey by Pew Research Center.

Challenges: Sophia sometimes feels lost at the gym and seeks a clear path on what to train and how to do it properly.

Communication Style: She's active on social media, especially Instagram and Facebook. Sophia's preferred communication style is visual and direct, reflective of the trend in her demographic's use of visual social media platforms for discovering new products and services.

2.5 Differentiation Criteria

Who are we?

We are PerfectForm, a health and fitness app technology firm with advanced products in our lineup, such as deep learning, AI, and motion tracking analysis. We want to equip the gym-goers with injury free and personalised workouts.

What do we do?

We propose an innovative mobile application in the form of a training guide, supporting users with real-time tracking and the preparation of an individual training plan. Users will be able to record their workout and get instant insight for having correct form and fitness development using our in-app deep-learning feature. Our app is powered by our Personal AI trainer that caters to the workout schedules based on individual needs, goals, preferences, and injury history.

Why is that important, and for whom?

Our solution targets all the pain areas of common gym-goers: no proper guidance and no personalised training. We induce real-time feedback and design the workouts so that exercise never causes injury during training for optimum fitness results. PerfectForm is a prerequisite in realising the goal of safe and effective physical fitness that will improve the general health and conditioning status of an individual, regardless of his present fitness level.

How do we differentiate?

Our app uses the latest deep learning AI, merges with 3D motion tracking to analyse workout forms and provide guidance with posture correction in real-time, hence not allowing the user to take the wrong course and risk injury. And more, our personal AI trainer develops a customised workout plan based on individual needs and taking into account past injuries of the user to cater special warm up and stretching programs. Unmatched level of sophistication and level of differentiation that technology, engineering, and product offering will be able to reach in relation to the competitors, so it will be of total unique value to our customer.

2.6 Technology needed

To ensure a successful launch for my Fitness APP, I will need the following technology platform:

AI and Machine Learning Platform, for the core feature of my app; analysing the form of workout in real-time so that the posture is correct and the risk of injuries is at its minimum (*Motion Tracking on Mobile | Premo S.L., 2019*). Secondly I would use Large Language Models to build a custom workout plan based on every customer's needs.

AI-based motion analysis platforms such as motion tracking and analysis based on machine learning algorithms like TensorFlow and cloud platforms providing the required scalability of AI processing: AWS, Google Cloud, Azure (*Best Video Content Analysis APIs in 2024 | Eden AI, n.d.*).

Build a mobile App Development that would give the users a digestible interface to access PerfectForm's functionality. The App would require the following technologies:

- Frontend: React Native or Flutter that would enable cross-platform mobile App development. The motive behind the choice is the ease in deploying an App that works on both iOS and Android devices.
- Backend: Node.js or Python would develop the App's server-side logic, including the creation of APIs for AI data processing.
- Database: MongoDB or Firebase to store user data, the workout logs, and personalised plans.

3D Body Scanning and Motion Tracking to generate detailed information about the user's body metrics and provide custom exercise adjustments: technologies to be used include 3D body scanning APIs. These ARKit or ARCore Augmented Reality (AR) features will make user interaction more engaging (*Utilising ARCore and ARKit for Augmented Reality Features in Android Apps, 2024*).

IaaS, or (Infrastructure as a Service) to host the app, manage data storage and enable scalable processing for AI: technology cloud service providers like AWS, Google Cloud, and Microsoft Azure will be deployed for hosting services, databases, and training deployment for AI (*What Are IAAS, PAAS and SAAS? | IBM*, n.d.).

Payment Gateway Integration for in-app purchases and subscriptions: Stripe, PayPal, and other APIs to process payments in the app (Muduroglu, 2023).

User Feedback and Community Engagement Tools: in-app messaging, feedback sending tools, game-elements for gamified adherence (Lu & Ho, 2020), social media integration with a community building focus.

Marketing & Analytics Tools: Google Analytics for Mobile, Firebase for Real-Time Analytics, and, since it is a B2C app, SEO Tools for Maximum Visibility Online (*Google Analytics for Firebase | Free and Unlimited App Analytics*, n.d.).

Security and Compliance: encryption libraries such as OpenSSL to ensure data is securely stored, compliance consultancy including legal adherence. Provide Authentication with Content Sync (Again, 2023).

Customer Support Tools: in-app integration of customer support platforms, e.g., Zendesk or Freshdesk, for user support (Zendesk, 2024).

2.7 Legal Requirements of the Project

AI Act

The AI Act of the European Union represents a clear step forward in regulating artificial intelligence technologies to ensure their safe and ethical deployment. The European Commission proposed some new rules for Artificial Intelligence (AI) in April 2021. These rules are like a guide for how AI should be used in the European Union (EU).

These laws look at different AI systems that can be used in many ways and decide how risky they might be for people.

The more risky an AI system is, the more rules it will have to abide by. When enacted, such rules will morph into worldwide standards of AI regulation. Change is beginning to blow in the winds of artificial intelligence (AI) over Europe. The European Parliament's Civil Liberties and Internal Market Committees approved a draft AI Act by an overwhelming vote of 71-8.

The draft AI Act approved by the Committee on Civil Liberties and Internal Market outlines a progressive deadline for the implementation of the strictest rules regarding the most problematic uses of AI, from 2024 to 2027.

The EU AI Act also takes in the subjects regarding the governance of data and the quality of data. This requires that the data be of good quality, relevant, and representative in an AI system, besides conforming with laws, including those relating to data protection regulation, e.g., the General Data Protection Regulation (GDPR) (Team, 2024).

GDPR compliance

Other legal requirements will apply, such as being GDPR compliant for our customers' data, which is mainly related to health data.

The GDPR applies strict rules for processing consent based data.

The aim of the rules will therefore be to ascertain that the person knows what they are consenting to. The data subject's consent should thus be freely, specifically, informedly, and unambiguously given in clear and plain language via a request for consent. Consent should be given by an affirmative act, such as checking a box online or signing a form. Accordingly, if in this respect an individual agrees to the processing of his personal data, the processor might process the data for the purposes to which the agreement was given. He also has to provide the individuals with the chance to withdraw the consent (Data Protection under GDPR - Your Europe, 2022).

3. Business Identification and Market Analysis

3.1 Target Market Definition

I considered the UK my base market since it is the top spender in the Health & Fitness category, having generated 231€ million last year (Sensor Tower, 2021).

Moreover, with the UK leaning more towards new technologies, the chances are more susceptible when it comes from the US. Part of it may be due to the strength of the innovation system. This is why the innovation system in the UK ranks the country at number 4 in the world, according to the Global Innovation Index (UK Innovation Strategy: Leading the Future by Creating It, 2023).

Most recently, the United Kingdom has ranked very high in Europe for the conducive environment for applying research and development of AI, the most vibrant concentration of key players, and top tech giants like Microsoft, Amazon, and Apple (The UK Innovation Report 2023 - Cambridge Industrial Innovation Policy, 2024).

This translates to a more willing attitude to try out and adopt new technological advances.

With projected CAGR growth of 15.69% during the next five years, the market volume will make total revenues reach 231.10M€ by 2022 in the UK. The market volume is forecasted to amass 478M€ by 2027.

The in-app purchase (IAP) revenue in this sector was about 165.90M€ in 2022 (Statista, 2023).

3.2 Market Situation

From the 10 million active gym members in the UK (The UK Fitness Report – 2023/24 Gym Statistics | PureGym, 2022), it follows that a large initial market for services

related to fitness could be attained – knowing that 28% of gym goers use fitness apps (Shah, 2022), leading to 2.8 million fitness apps users.

As a percentage, fitness apps users aged 25 to 34 represent more than 50%. This results in more than **1.4 million** potential users, spreaded equally for men and women.

This demographic is crucial since it's also the most active, representing 41% of the users (Spraul, 2023).

3.3 Competition

As our primary focus is helping gym-goers achieve optimal workout results and prevent injuries, placing us firmly within the health and fitness domain. Moreover, the use of motion analysis and AI to analyse workout forms and provide tailored training sessions indicates a strong technological component to our business.

Given that users will access our service through an app on their smartphones, we are also in the mobile application business area. Finally, while not traditional education, my app educates users on proper form and provides personalised training guidance, similar to how educational apps teach and guide users, which put us in the EdTech segment.

I have chosen 10 different competitors, based on their similar technology, mainly the use of AI, deep learning algorithms and motion tracking analysis.

This table shows my 10 competitors and the technology they use and a grade from 1 to 10 on how well they've penetrated the market by analysing their brand presence on social media and reviews.

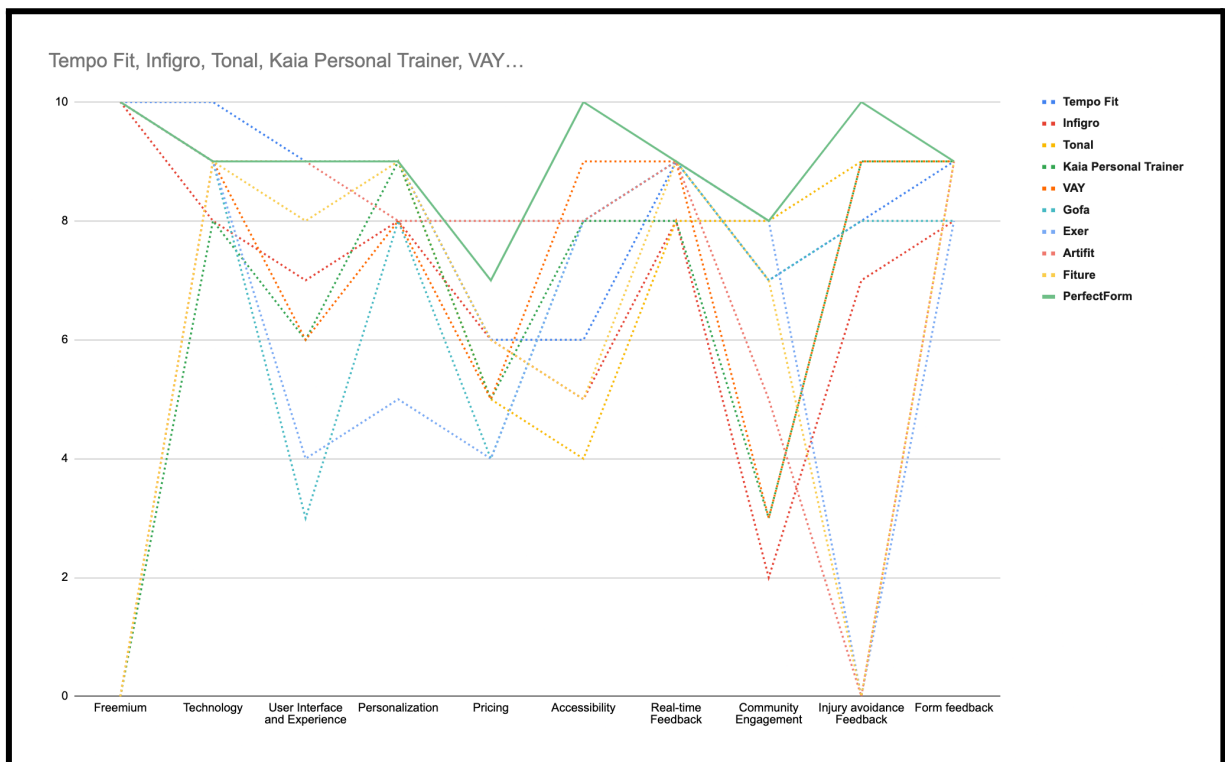
Table 1 - Competitors Name and main tech they use

Name	Technology
Tempo Fit	3D sensors, body modelling scan and AI technology 10/10

Infigro	AI, Motion tracking Analysis 8/10
Tonal	Offers personalised strength training plans tailored to specific goals
Kaia Personal Trainer	AI and computer vision technology 8/10
VAY	VAY uses computer vision software to digitise human movements, providing precise motion analysis
Gofa	Utilises motion recognition and 3D pose recognition technology for real-time analysis and feedback on movements, akin to having a personal virtual coach 9/10
Exer	Exer utilises a custom, next-generation AI built for digital health, providing motion health assessments through common mobile devices 9/10
Artifit	Artifit utilises AI and computer vision via your smartphone camera to monitor workouts, provide real-time feedback on exercise technique, and track progress 9/10
Fiture	Utilises an industry-first Motion Engine™ technology to map key points on the body against millions of movements for real-time 9/10
Kemtai	Utilises advanced computer vision to identify and analyse movements with 111 body motion data points 9/10

The Strategy canvas or “Blue Ocean Strategy” developed by Chan Kim and Renée Mauborgne is defined as a one-page visual analytic that depicts the way an organisation configures its offering to buyers in relation to those of its competitors (Blue Ocean Strategy, 2024).

Figure 10 - Blue Ocean Strategy representation of my competitors and PerfectForm.



Note: Own Elaboration.

Qualifiers taken into consideration:

Freemium: Yes or No.

Technology: What technology is used.

User interface and experience: Ease access to the interface and experience provided.

Personalisation: How personalised is the workout plan.

Pricing: Price of the app.

Accessibility: How accessible is the app, is there an app or no, available on IOS and/or android. Does the app need hardware to be used?

Real-time feedback: Whether or not the app gives this option and how advanced it is.

Community engagement: Whether they have an active community in their social media and within their app.

Injury avoidance feedback: Whether the technology is specifically made for injury avoidance.

Form feedback: Whether or not the AI gives any feedback on how to correct and perfect the form.

The way I decided to conduct the grading of each feature was by trying out myself some of the apps that were available for a free trial, or reading blogs and reviews of their products.

For the grading of my own startup, I assessed the areas that I would focus on more to differentiate myself from the competition by measuring what is feasible and what is not.

Competitors' strengths and weaknesses:

Strengths:

Technology: Mainly using AI and computer vision with real-time feedback, generally giving scores between 8 and 10.

Real-Time Feedback: Nearly all competitors offer real-time feedback on form and performance.

Personalisation: Most competitors offer personalised workout plans or adaptability.

Weaknesses:

Community Engagement: Most competitors have a low score for this, showing a poor online community or social media presence, which is paramount to continuously increase a user base.

Injury Avoidance Feedback: Some competitors, such as Exer, Artifit, and Future, had few 0s and 1s in injury avoidance, representing that their application is weak in injuries avoidance.

Pricing and Accessibility: Some of the prices of the competitors are sky-high, while a few of them really don't have data on their pricing.

Areas of improvement:

01. Enhancing Community Engagement: Building a strong online community and social media presence.
02. Priority in Injury Avoidance: Since your app will already mostly prioritise form correction for injury avoidance, it could be a huge differentiator.
03. Flexible Pricing and Accessibility: Ensure the pricing is competitive and the app accessible across many platforms.

3.4 Sales forecast

Considering our Roadmap of launching the APP 1.0 in June 2024, we are targeting to capture 14,000 users by the end of 2024, which represents 0.5% of the 2.8 million app users in the UK. A reasonable target considering one of the biggest fitness apps in the UK right now that gained 1 million users in their first year of launch (Sobhani, 2022).

Table 2 - Plan duration by industry for mobile apps.

Most popular plan durations as % of subscriptions	One week	One month	Three months	Six months	One year
Business	44.8%	33.5%	1.1%	0.1%	20.6%
Education	4.7%	33.4%	1.7%	2.5%	57.6%
Gaming	69.5%	25.2%	0.2%	0%	5.1%
Health & Fitness	3.9%	21.0%	5.0%	0.8%	69.4%
Media & Entertainment	18.3%	49.1%	0.5%	0.3%	31.8%
Photo & Video	33.4%	20.2%	0.1%	0%	46.3%
Productivity	24.6%	20.6%	0.4%	0.1%	54.3%
Shopping	12.2%	77.8%	0.4%	1.5%	8.1%
Social & Lifestyle	43.7%	31.4%	1.1%	0.6%	23.2%
Travel	25.5%	20%	0.4%	0.2%	53.9%
Utilities	38.7%	24.7%	0.4%	0.3%	35.9%

Note. The part that interests us is the 4th line, Health&Fitness, more particularly the one month and one year plans. Taken from RevenueCat (*State of Subscription Apps 2024 – RevenueCat*, n.d.).

As shown on table 2, the proportion of **one month plan duration is 30.6%** and **69.4% for yearly plans.**

Considering this, the median conversion rate for the Health & Fitness category is **18.52%** (Knotko, 2023).

This gives us this following table, where we expect to reach a total of 14,000 users. Of these users, we expect to convert 2,592 premium users in total by the end of 2024.

The first month of the launch, we expect to reach 15% of the total premium users, being 388 of the total 2,592 expected premium members in 2024.

However, we have to consider users that stop using our paid membership.

Since 71% of users leave by 3 months (Kim, n.d.), we can use this to estimate a monthly churn rate.

“Churn refers to the rate at which a subscription company loses its subscribers because of subscription cancellations or elapses.”(GoCardless, 2023)

$$\text{Monthly churn rate} = 1 - (1 - 0.71)^{(1/3)}$$

$$\text{Monthly churn rate} = \mathbf{33.81\%}$$

Knowing the projected CAGR growth of 15.69% during the next five years, we can calculate the monthly growth rate with the following formula:

To calculate the monthly compound growth rate given an annual compound growth rate (CAGR) of 15.69%, we can use the following formula:

$$\text{Monthly Growth Rate} = (1 + \text{CAGR})^{1/12} - 1$$

$$\text{Monthly Growth Rate} = 1.22\%$$

Table 3 - Initial metrics for financial forecast

Important metrics	
Total attainable market	2,800,000.00
Market penetration rate	0.50%
Expected total users 2024:	14,000.00
Conversion rate to premium:	18.52%
Expected total premium users 2024:	2,592.00
Percentage expected to capture within first month:	15.00%
CAGR:	15.69%
Monthly Growth Rate:	1.22%
Yearly plan choice Rate:	69.60%
Monthly plan choice Rate:	30.40%
Monthly Churn Rate:	33.81%
Monthly Plan:	£23.99
Yearly Plan:	£240.00
Renewal Year 1 Rate:	35.33%
Renewal Year 2 Rate:	15.36%

This monthly growth rate will be used for the following year of new users growth.

Table 4 - Sales forecast of the year 2024.

Subscriptions revenue forecast	Starting Users	New Users	Cumulated Monthly Subscription Users	New Yearly Subscription Users	Lost Users (Month-to-Month)	Revenue from Monthly Subscription	Revenue from Yearly Subscription	
Year 2024								
June	388	388	117	270	0	£2,806.83	£64,800.00	
July	741	392	225	272	39	£5,397.75	£65,280.00	
August	1,061	396	322	275	76	£7,724.78	£66,000.00	
September	1,353	400	411	278	108	£9,859.89	£66,720.00	
October	1,619	404	492	281	138	£11,803.08	£67,440.00	
November	1,861	408	565	283	166	£13,554.35	£67,920.00	
December	2,082	412	632	286	191	£15,161.68	£68,640.00	
Total Monthly subs revenue							£66,308.36	
Total yearly subs revenue							£466,800.00	
Total revenue 2024							£533,108.36	

Explanation of the table:

- **Starting Users:** The total number of users on the given month.
- **New Users:** The total number of new users on the given month being the sum of monthly and Yearly users.
- **Monthly Users:** The number of users choosing the monthly plan. The number represents 30.4% of “Starting Users”.
- **Yearly users:** The number of users choosing the yearly plan. The number represents 69.6% of “Starting Users”.
- **Lost Users (Month-to-Month):** This column represents the lost monthly users. It starts on the 2nd month. I used the monthly churn rate result of 33.81% calculated above, multiplied by the “Monthly Users”.
- **Revenue from Monthly Subs (£):** The revenue generated from the monthly users
- **Revenue from Yearly Subs (£):** The revenue generated from the yearly users.
- **Important note:** I used the **ROUND** formula on every cell related to the user count to ensure all figures were whole numbers. This was necessary to eliminate decimals, which could otherwise lead to surplus revenue and potentially misleading interpretations.

By December 2024, we are expecting to generate a total income of **£533,108.36**. Although our forecasts are theoretical, it is important to note that the rate in which we will gain paid users might vary according to the seasonality and other factors. For example, we might experience a pic of new paid members in January and September when people usually go back to the gym.

4. Marketing and Commercialization

4.1 Price and Sales Policy

I decided to go with the subscription business model with a yearly engagement fee of **£240/year** or monthly plan at **£23.99 /month**. Users save 20% on a yearly plan. as I

wanted to be reasonable on my price allowing me a good margin and also marketing my app on the **premium** entry for an app.

My real competitors in prices are the one in bold as they only offer an app software rather than an app plus a hardware to install in their home.

Moreover, I offer more unique features such as the 3D scanning model as well as the deep workout customisation thanks to the AI personal trainer chatbot.

Table 5 - Name of my competitors and their membership cost.

Name	Price	Need of Hardware	Business Model
Tempo Fit	139\$/month	Yes	B2C
Tonal	84\$/month	Yes	B2C
Kaia Personal Trainer	130\$/month	No	B2B
Gofa	7.6\$/month	No	B2C
Exer	125\$/month	No	B2B
Artifit	11.49\$/month	No	B2C
Fiture	80\$/month	Yes	B2C
Kemtai	35\$/month	No	B2B

Note. This table was retrieved and made by myself by looking up the prices of each competitor.

4.2 Brand Policy

Our Brand Policy is based on our ability to provide state of the art technology through our unique services. We emphasise user safety and effective training by achieving maximum individual workouts that have been optimised to meet our user's fitness goals and needs. We commit our brand to constant innovations and community engagement, allowing our users to reach their best form through a supporting and technologically updated platform.

4.3 Communication and Image/Promotion

As for our communication and promotion strategy, PerfectForm will leverage social media as well as our strategic partners such as rehab centres and gyms to increase brand awareness. We will also attend strategic summits/events related to fitness and new technologies to network and actively reach potential new users by allowing them to try our service during these events to drive a more tangible customer experience but also gaining visibility online through user's review and experience with our service.

Figure 11 - PerfectForm Logo



Note. Own elaboration

I designed this logo with the idea to show a neutral human figure with smooth rounded corners representing a fluid and seamless form. The idea of putting weights without the bar itself was along this goal of smoothness of execution that our startup wants to portray.

4.4 Customer Journey Map

Forbes advisors , defines the customer journey map as a ” visual tool that helps you define your customers’ needs, problems and engagement with your brand. When used

properly, a map can be a vital component of effective project management (Miranda, 2022).

The map is laid out as a timeline that plots every interaction a customer has with your business from awareness to repeat business. It helps you see what the customer experiences at every touchpoint.”

I used an online tool named Custellence (Custellence, n.d.). This tool is like Canva but for designing detailed Customer Journey maps.

Customer Stages	Before			During							After
Customer Phases	Pain	Uncertainty	Hope	Awareness	Consideration	Decision	Trial	Adoption	Retention	Advocacy	
Customer Journey Steps & Situations	Sophia Martinez	Knee injury	Looking for help	She gets some recommendations	She learns about the app	She investigates	She gives it a try	7 DAY trial	She is convinced	Sophia has become a loyal user	She shares her experience
Image											
Description	29 years old Occupation: Digital Marketing Manager Education: Bachelor's degree in Marketing Income: Above-average	She recently injured her knee and is scared to worsen it by doing a wrong movement at the gym	She looks for personal trainer but her timetable doesn't match	Her physiotherapist tell her about this app that has been helping a lot of his clients at the gym.	She goes on the landing page of our app and learns about the benefits and ease to use of the service.	She looks for user's feedback to see if there is other people like her that adopted this new alternative.	Not very sure, she decides to download the free version of the app to look at the features.	Not very sure, she decides to take the step and sign up for the 5 days trial	Impressed with the personalised feedback and feeling more confident about her form, Sophia subscribes for additional features.	Relying on the app for her 3 times weekly workouts. The app's community features allow her to share her progress, which she enjoys.	She becomes an advocate for the app, sharing her positive experiences on social media and in her gym community.
Customer Needs		Guidance	Flexibility and ease of access	Aprobation	Information	Relatability	Make sure that this app would really help her	Be convinced to switch to the premium plan	Use our app as her fitness companion	Can't train without it	Spread the word
Channels		She can hear about us in the gym through ads from screen TVs.	Cookies to qualify her for awareness phase	Physiotherapist	Our Landing page	Our Landing page / Reviews on the App store	On our App	On our App	On our App	Shares on Social media her progress and Challenges from the app	Joins our referral program.
Customer Emotional State											
Customer Stakeholder X	Physiotherapists: One of our potential key partners, they could recommend our app to their patients										
Customer Stakeholder X	Friends: people that already use the app and can recommend it to their peers while working out and actually giving a demo of our features.										
Customer Stakeholder X	Gyms: We could partner with gyms so they promote our app to their new comers which would boost their customer retention as they'd have a more guided session thus would feel less demotivated to come workout.										

4.5 4 P's

“Neil Borden, an advertising professor at Harvard, popularized the idea of the marketing mix” (Twin, 2024). These 4 P's are composed of the Product, Price, Promotion and Place.

For the marketing mix concept, the following four key frameworks are used: First, the **Product**, which inherently should appeal to the consumer and offer an apparent reason for purchase. Then comes the **Price**; this can be key depending on the sector. In a very competitive market with significant production costs, pricing is a crucial factor. Choosing the proper **Promotion** channels is critical, considering what works for competitors and the intended consumer base. Finally, the **Place** deals with how the product is sold and its impact on sales.

Product

Reason to buy: The users will receive tailored workout plans, 3D scan and Motion tracking analysis that minimise the risk of injury and maximise workout efficiency.

Good or Service: In this case, it's an app-based service combining AI and motion tracking to offer real-time feedback on workout form, personalised workout plans, and injury prevention guidance.

Product Life-cycle: This type of technology is still in the early adopters phase of the market, allowing us room to grow.

Substitutes/Complements: Our product replaces the need of personal trainers in some cases. And could be a complement for wearable fitness trackers, membership discounts, nutritional plan apps...

Price

Value for customer: Fraction of the cost of a Personal Trainer.

Market prices: We are in the premium range for fitness apps.

Price elasticity: We would conduct A/B testing strategy on the early stage of our launch to evaluate how changing the price would affect our user base.

Break-even Price: We plan to break-even in early 2027.

Promotion

Branding message: *Harnessing AI and Motion tracking for injury free workouts.*

Marketing channels: Social Medias Platforms | Email Marketing | Partnerships | SEM | SEO.

Competitors' campaign: We would pay particular attention to the emotional and motivational triggers our competitors use.

Historic success: We would review previous campaigns or promotional efforts that have been successful.

Place

Sales channels: App Store | Landing Page | Partnerships.

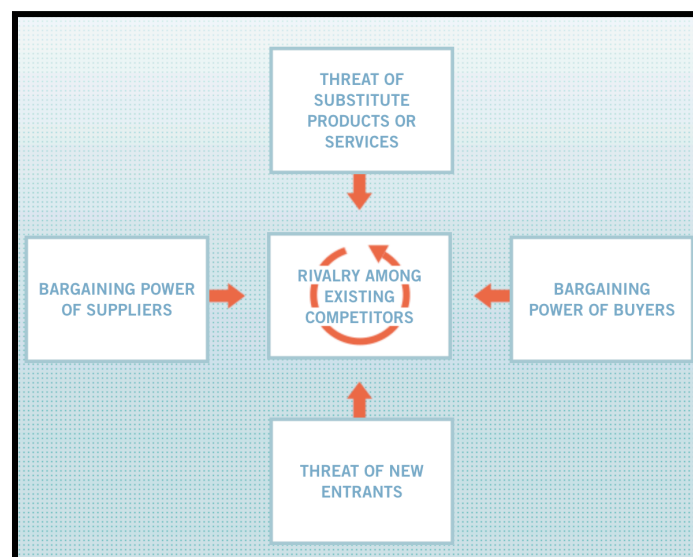
Accessibility: IOS and Android, Various languages available.

Competitors' channels: App Store | Landing Page | Partnerships.

4.6 Porter's 5 Forces

“Described by Michael Porter in his classic 1979 Harvard Business Review article(...). A Five Forces analysis can help companies assess industry attractiveness, how trends will affect industry competition, which industries a company should compete in—and how companies can position themselves for success.” (*The Five Forces - Institute for Strategy and Competitiveness - Harvard Business School, n.d.*)

Figure 12 - Graphical representation of Porter's 5 forces



Note. Retrieved from Harvard Business school. (*The Five Forces - Institute for Strategy and Competitiveness - Harvard Business School*, n.d.).

Customer's Bargaining Power

Customer concentration: High focus on niche markets, increasing our customer's bargaining power.

Price Elasticity: Premium App justified by our UVP

Strength of Brand Loyalty: We intend to build a strong brand identity and become a go-to-app for injury prevention.

Switching Costs: We strive on offering unique features such as 3D scan can increase and injury prevention motion tracking that will make our user pay for the service.

Supplier's Bargaining Power

Supplier Concentration: We rely on 3rd party integration for our 3D body mapping feature which can increase their bargaining power.

Supplier Loyalty: We intend to build long-term relationships to reduce their bargaining power.

Supplier Differentiation: Their uniqueness of service they offer increases their bargaining power as the market is still in early stage..

Switching Costs: It would be high if we change suppliers as we'll have to migrate our database and make changes on the app which could lead to integration issues and ultimately harm the customer's experience, thus potentially losing some market share.

Threat of substitutes

Market Concentration: Fitness app market is saturated, however our UVP and technology set us apart.

Differentiation between Products: Use of new cutting edge technologies.

Competitors' Profitability: They are operating at high margins showing potential new competitors.

Threat of new entrants

Potential for Cross-Product Substitution: The fitness app market is very competitive allowing new entrants to place themselves, especially with the AI trend.

Quality of Substitution: We aim to maintain the highest quality of service in AI accuracy, user experience, and effectiveness of workout plans.

Plausibility Customers Will Switch: Depends on our ability to maintain our UVP and staying ahead of our competitors in our technology integration and unique features.

Existing Rivals

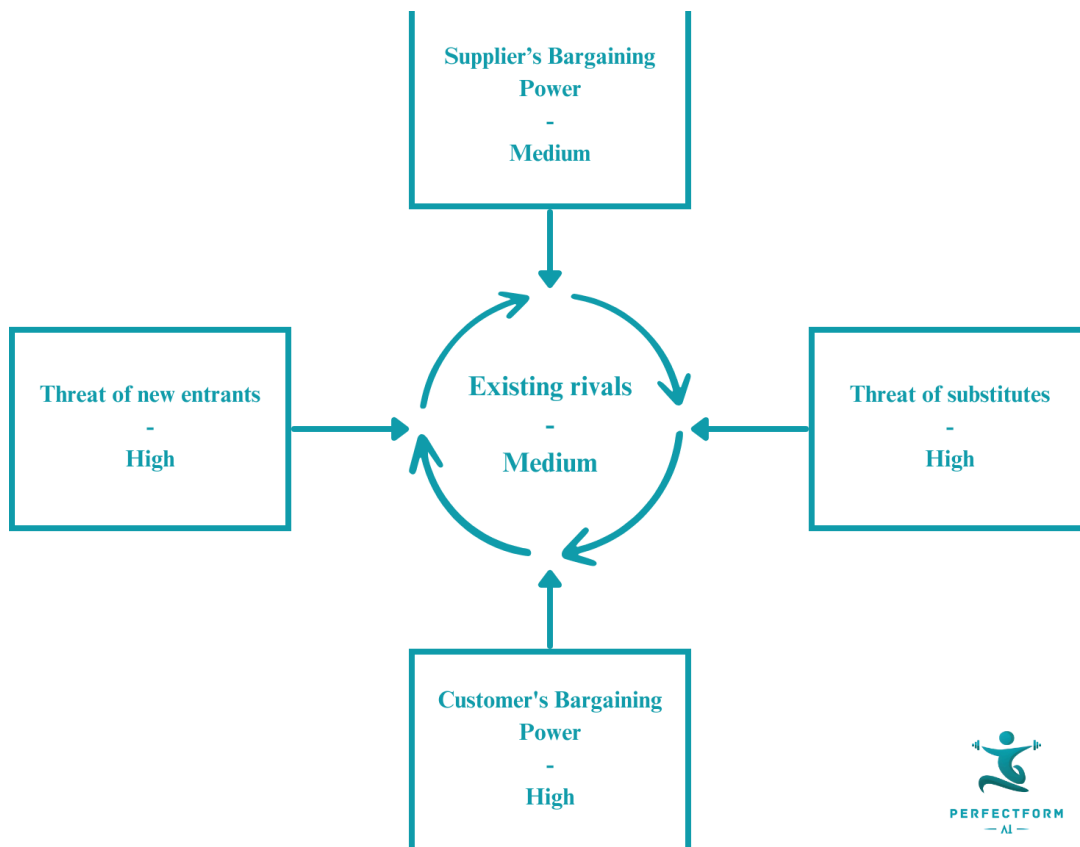
Regulation & Legal Barriers: Patenting our technology could increase our rivals' capacity to compete and increase our unfair advantage. Securing exclusive partnerships with our suppliers.

Entry Costs: By leveraging B2B partnerships, we lower our entry cost.

Economies of Scale: We aim to achieve it by Expanding our user base. Also, arranging better deals with our suppliers to increase our margin.

Network Effects: Encouraging community building within the app through gamification which is the “craft of deriving all the fun and engaging elements found in games and applying them to real-world or productive activities.” Chou and Chou (2024), and challenges.

Figure 13 - PerfectForm's graphical representation of Porter's 5 forces



Note. Own elaboration

5. Technicality and application of Artificial Intelligence

5.1 How the Motion tracking works

Motion tracking technology, especially with deep learning, has become an enabler in fitness applications, providing for accurate monitoring and correction of body movements during workouts. Here is a simple breakdown of how motion tracking works, as extrapolated from the information provided in several research papers.

Basic Principle

Machine Learning: Imagine machine learning as teaching a child how to paint. At first, the child knows little about colours, shapes, or techniques. You provide them with a lot of pictures and examples, and by observing these, the child starts to see patterns and understand what makes a good painting. As they continue to practise and learn from feedback (such as which colours mix well or which brushstrokes to use for different effects), they become better and more skilled at painting.

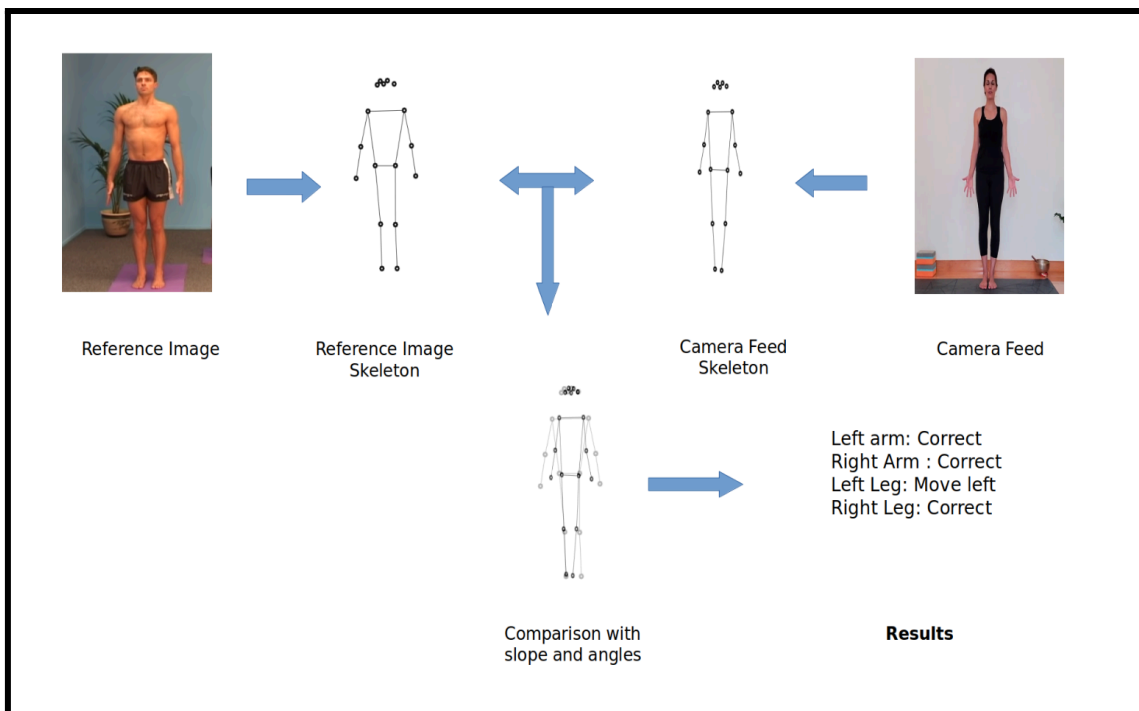
Similarly, machine learning involves giving a computer model a large amount of data. The model looks for patterns, rules, and insights within this data, without being explicitly programmed with the rules of how to accomplish the task. Over time, as the model is exposed to more data and feedback, it 'learns' and gets better at making predictions or decisions. (ChatGPT, 2024)

Deep Learning: Continuing with the painting analogy, deep learning can be thought of as a more advanced art class for the child who's already learned the basics of painting. In this class, the child is introduced to complex techniques like layering colours, mixing media, and creating detailed textures, all of which require a deeper understanding of the art.

Deep learning is a subset of machine learning that uses layers of processing units—akin to the multiple layers of paint and technique in an advanced painting. These layers in a deep learning model are designed to extract and learn progressively more complex features from the data. Starting from simple shapes and colours (in the data sense, these would be basic attributes or patterns), each layer builds on the previous one to understand more intricate details, allowing the model to make very sophisticated decisions or predictions. (ChatGPT, 2024)

- A. Human Pose Estimation: First, the application detects different points on the user's body, including the joints and limbs through a camera. This technology identifies human figures in pictures or videos and predicts body poses by estimating where critical body joints are. For example, applications such as "Pose Trainer" can determine poses for users and provide customised suggestions to improve their form during exercise (Gatti, P, A, & Ravi, 2022).

Figure 14 - Workflow on how the body's joints are extracted by the technology.



Note. This was taken from the research paper Deep Learning for fitness (N, 2021).

- B. **Feedback and Correction:** The system checks the pose against pre-defined right poses for exercises. In case of any discrepancies, like the alignment of limbs, real-time corrective feedback is given. This feature ensures that the exercises are correctly done in such a way that minimises the risk of injury and maximises the intended effect of the workout (Gatti, P, A, & Ravi, 2022).
- C. **Deep Learning Integration:** The technology deep-learning-based models are being applied to improve the precision and efficiency in posture estimation. The developed models are adaptable to work under different poses and movements, even in various ambient conditions, and are trained with large datasets in body movement (N, 2021).

Application in PerfectForm

- **Form and Movement Analysis:** Deep learning can be particularly effective in recognising complex human movements and postures from video data captured during workouts. By using convolutional neural networks (CNNs), a type of

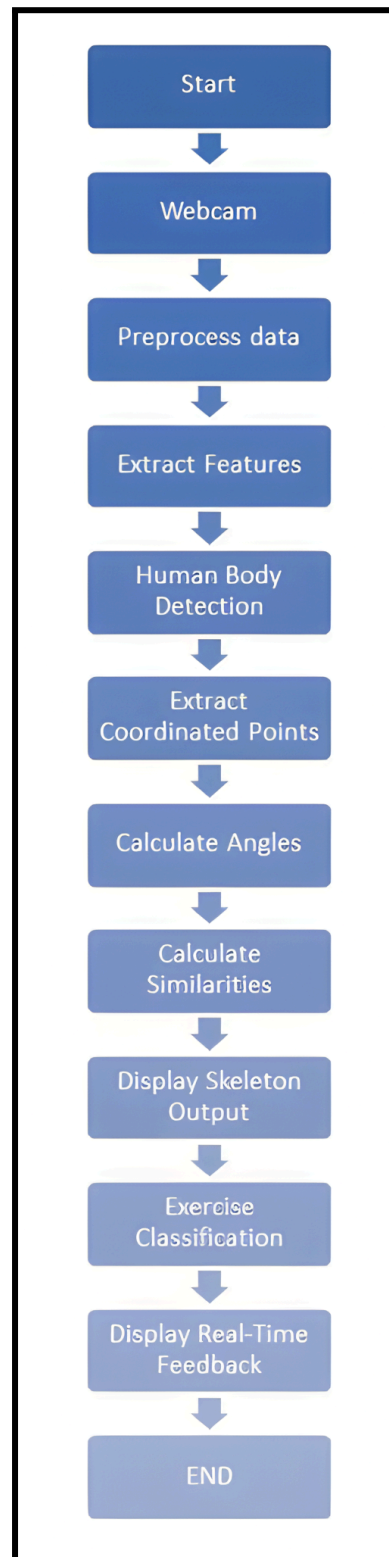
deep learning model, PerfectForm can analyse video frames to assess the correctness of exercise forms in much finer detail than traditional machine learning models.

- Feature Detection: For example, deep learning models can automatically and even more precisely detect certain features such as angles of joints, speed, and positions relative to other body parts of the body. Such high details shall support tailored feedback about the user's technique.

- Predictive Modelling: The use of deep learning in PerfectForm will also enable more accurate modelling of predictive future outcomes by analysing more comprehensive data sets, including performance over time, the levels of user engagement, or even slight movements that might be pointing towards some injury.

- Personalisation: Deep learning will enable significantly more sophisticated personalisation algorithms adapted to the user's very personal fitness journey. A deeper catering of workout plans, evolving dynamically together with the user's progress and preferences, will be enabled by deep learning algorithms, processing a large amount of data coming from workouts performed.

Figure 15 - System flow chart process of the deep learning analysis.



Note. Retrieved from the research paper Gym Trainer Application using Machine Learning (Gatti, P, A, & Ravi, 2022).

5.2 Generative AI and prompt engineering

First, some definitions:

Prompt: “A prompt is a set of instructions provided to an LLM that programs the LLM by customising it and/or enhancing or refining its capabilities.”(White et al., 2023).

Generative AI: “Generative artificial intelligence (AI) describes algorithms (such as ChatGPT) that can be used to create new content, including audio, code, images, text, simulations, and videos.”(*What Is Generative AI?*, 2024).

Prompt Engineering: “Prompt engineering is the practice of designing inputs for AI tools that will produce optimal outputs.”(*What Is Prompt Engineering?*, 2024).

In my business case, prompt engineering is applied to create workout plans by designing prompts that guide the AI to generate a plan based on the user's specific needs and preferences.

This would involve providing information about the user's fitness level, goals, and any past injuries or limitations for example.

The AI model can then use this information to generate a workout plan that is personalised and effective for the user.

Prompt engineering in this context requires a deep understanding of both the user's needs and the AI model's capabilities. It is essential for us to provide clear and detailed prompts that will guide the AI model to follow a specific set of questions to generate a plan that is both effective and safe for the user every time.

Moreover, we could train our AI model on a large dataset of workout plans to improve its ability to generate catered plans.

5.3 Best practices of AI for Prompt Engineering

ReAct stands for reasoning and acting, a method where LLMs not only generate reasoning steps but also actions that interact with external sources or environments. It's about making LLMs think and act like humans in solving tasks. (Yao et al., 2022)

Chain of Thoughts technique improves the reasoning capabilities of large language models (LLMs) by guiding them through intermediate reasoning steps, rather than just presenting the final answer or output directly. (Wei et al., 2022)

To enhance the capacities and accuracy of my AI chatbot trainer, I can employ these techniques.

Iterative Refinement:

An iterative process shall be deployed, so that the chatbot responses can be iteratively fine-tuned, given the user-provided feedback. The AI model provides a few options for the answers, tightens the most proper one in an interactive or feedback form by the scoring mechanism, and then further. (Yao et al., 2022)

Enhanced Understanding:

Explain the chain of thoughts approach that hones the reasoning capability of the chatbot. This is because by training the AI, it will be able to express its process of reasoning step by step; the AI would not give a conclusion, but it would know how it reached there. This can further enhance the cognition of the chatbot in complex scenario handling (Wei et al., 2022).

Contextual Awareness:

Develop mechanisms that provide the chatbot with an understanding of the physical and emotional context through situational awareness in the responses, i.e., the chatbot should be able to re-contextualize the response according to that physical and emotional context of the user, which is derived by conversational cues and previous interactions (Yao et al., 2022).

Feedback Loops:

Establishing feedback loops through which the users will either rectify or verify the logic of the chatbot, hence furthering its ability to get trained by AI with the correct information as well as refining the developed logic paths (Wei et al., 2022).

6. Financing and Economic-Financial Analysis

6.1 Cost Breakdown

To have a better understanding of my business model and how we intend to generate profit, let's first breakdown each cost that will incur.

Let's define some technical terms first:

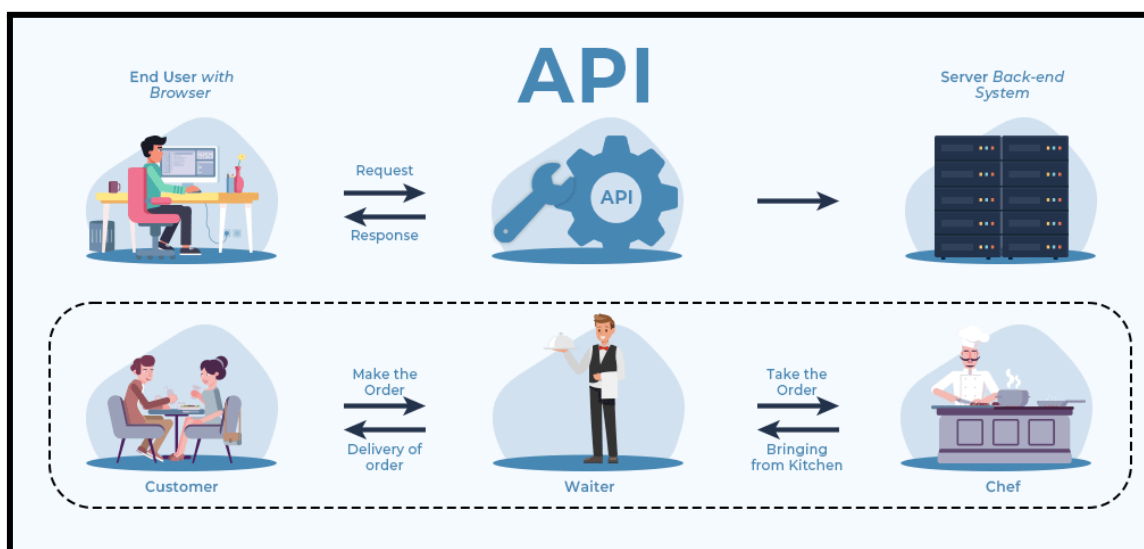
API: An API (Application Programming Interface), is like a waiter in a restaurant.

Imagine you're sitting at a table with a menu of choices to order from. The kitchen is the part of the system that will prepare your order, but you need a way to communicate your choice and get your food delivered to you. The waiter acts as the intermediary who takes your order, communicates it to the kitchen, and then brings your food back to you.

Similarly, an API takes requests from a user (or another system), communicates those requests to a system or software, and then returns the system's response back to the user.

(ChatGPT)

Figure 16 - API illustration



Note. Image from Geeksforgeeks (GeeksforGeeks, 2024).

Token: “In the field of AI, a token is a fundamental unit of data that is processed by algorithms, especially in natural language processing (NLP) and machine learning

services. A token is essentially a component of a larger data set, which may represent words, characters, or phrases.” (Cichocka & Miquido, 2024).

Prompt Token: These are the tokens used to form the input prompt. In the case of the Vision API, this would include the text part of the query, any instructions, or descriptions provided to the model. For instance, if I ask the AI to analyse a video frame and provide feedback, the tokens that make up my request and any contextual information are considered prompt tokens. (ChatGPT, 2024).

Sampled Tokens: These tokens are generated by the AI model in response to my prompt. In other words, they represent the model output. For example, when the AI analyses a video frame and provides feedback or a description, the words it uses in its response are the sampled tokens. (ChatGPT, 2024).

Fine tuning: Fine-tuning a machine learning model is similar to refining a recipe in cooking. Suppose you have a basic recipe that works pretty well, but you want it to better suit specific tastes or ingredients you have on hand. You tweak the amounts or types of spices and ingredients slightly, based on feedback from those who've tasted your dishes, to enhance the flavour and ensure the dish is a perfect fit for your guests.

In machine learning, fine-tuning involves starting with a model that has already been trained on a general task and making small adjustments to its parameters. This is done by continuing the training process with a new set of data that is more specific to the particular needs or tasks you want the model to perform. The goal is to improve the model's accuracy and efficiency in handling data that's more relevant to specific, real-world applications. (ChatGPT, 2024).

I. Tech Cost

AI Motion Tracking and APP creation costs

“Computer vision is a field of artificial intelligence (AI) that enables computers and systems to interpret and analyse visual data and derive meaningful information from digital images, videos, and other visual inputs. Some of its typical real-world

applications include: object detection, visual content (images, documents, videos) processing, understanding and analysis, product search, image classification and search, and content moderation.” (*Vision AI: Image & Visual AI Tools*, n.d.).

Table 6 - Cost Breakdown of Google’s Video Intelligence API pricing.

Streaming video annotation		
Feature	First 1000 minutes	Minutes 1000+
Label detection	Free	\$0.12 / minute
Shot detection	Free	\$0.07 / minute
Explicit content detection	Free	\$0.12 / minute
Object tracking	Free	\$0.17 / minute

Note. This pricing is for streaming video annotation, so the model can give real time feedback.

This particular Machine Learning has a pretrained model for physical and body recognition. However, we will need further fine tuning with deep learning data to cater this model to our needs.

I used the cost estimate calculator from google cloud services to have a rough estimate on the cost of using their services for data storage, fine tuning of the model,

For your mobile fitness app development and the machine/deep learning needs, I would recommend considering the following Google Cloud services:

01. Cloud Storage: This service will provide scalable and durable storage for storing user data, media files, and other app assets.

02. Cloud SQL: These managed database services can be used to store and manage structured data for your app, such as user profiles, workout routines, and progress tracking.

03. Cloud Functions: Serverless execution environment that can be used to run backend code in response to events or HTTP requests, enabling serverless architectures for your app.

04. Firestore: A flexible, scalable NoSQL cloud database that can be used for storing and syncing app data across clients in real-time.

05. Vertex AI: Google's managed machine learning platform that can be leveraged for various AI/ML tasks:

- Vertex AI Training: Train custom machine learning models for tasks like exercise form analysis, injury risk prediction, or personalised workout recommendations.
- Vertex AI Prediction: Deploy and serve your trained models for making predictions or inferences in your app.

06. Cloud Vision: Use pre-trained machine learning models for tasks like detecting and analysing exercise form from images or videos.

07. Cloud Logging: Centralised logging service for monitoring and troubleshooting your app's performance and behaviour.

08. Networking (IP address secured): Secure and manage the network connectivity for your app and its associated services.

09. App Engine: Fully managed platforms for deploying and scaling your app's backend services.

10. Cloud CDN: Cloud CDN (Content Delivery Network) uses Google's global edge network to serve content closer to users, which accelerates our website and application.

11. Cloud Armor: Helps us protect your Google Cloud deployments from multiple types of threats, including DDoS attacks, cross-site scripting (XSS), and SQL injection.

These services integrate seamlessly with Firebase, Google's comprehensive app development platform, which will greatly simplify the development and deployment process for our mobile app.

In annexe 5 , I've attached the complete breakdown of Firebase's cost with some more in depth explanations.

Table 7 - Firebase cost breakdown

Name of service	Quantity	Cost (\$)	Cost (£)
Cloud Firestore			
GiB stored	1.00	\$0.00	£0.00
Document writes	600,000.00	\$0.00	£0.00
Document reads	1,500,000.00	\$0.00	£0.00
Document deletes	600,000.00	\$0.00	£0.00
Real Time Database			
GB stored	20.00	\$45.00	£35.55
GB transferred	100.00	\$90.00	£71.10
Authentication			
Identity Platform Pricing	50,000.00	\$0.00	£0.00
Monthly active users	50.00	\$0.00	£0.00
Cloud Storage			
GB stored	500.00	\$12.87	£10.17
GB transferred	500.00	\$56.40	£44.56
Operations	10,000,000.00	\$6.79	£5.36
Cloud Functions			
Invocations	2,000,000.00	\$0.00	£0.00
GB-seconds	400,000.00	\$0.00	£0.00
CPU-seconds	200,000.00	\$0.00	£0.00
Networking	5.00	\$0.00	£0.00
Cloud Build minutes	1,000.00	\$2.64	£2.09
Container storage	10,000.00	\$0.26	£0.21
Hosting			
GB stored	100.00	\$2.34	£1.85
GB transferred	100.00	\$13.50	£10.67
Test Lab			
Virtual Device Testing (hour per day)	6.00	\$150.00	£118.50
Physical Device Testing (min per day)	120.00	\$225.00	£177.75
Firestore ML			
Cloud Vision API calls	Will depend on monthly consumption		
Estimated Monthly fixed cost		\$604.80	£477.79
Estimated Yearly fixed cost		\$7,257.60	£5,733.50

Table 8 - Firebase 2024 monthly cost

Firebase Cost (with API call as variable cost)			
Month	Number of user	Number of API calls /month	Cost per month
January	0	1000	£478.97
February	0	1000	£478.97
March	0	5000	£483.71
April	0	5000	£483.71
May	0	5000	£483.71
June	388.00	192.00	£565.90
July	741.00	192.00	£646.06
August	1,061.00	192.00	£718.73
September	1,353.00	192.00	£785.04
October	1,619.00	192.00	£845.45
November	1,861.00	192.00	£900.40
December	2,082.00	192.00	£950.59
Total cost for the year			£7,821.23

Note. For reference, 1 API call is **£0.001182742857**

AI Personal trainer chatbot cost

Assessing this cost has been really challenging as it takes into account many variable to determine the number of AI tokens used, so I decided to calculate from the chat I had with my MVP AI personal trainer (figure 1):

I'll be using the GPT-4 API with a 128k context model.

Given that the chat contains 494 words, we can estimate the number of tokens by assuming that on average, a word is about 4 bytes or characters long. Therefore, each word is roughly equivalent to 1 token (since 1 token is approximately 4 bytes).

For 494 words, we would have an estimated 494 tokens. The cost for using the API with a 128k context is (*How Much Does GPT-4 Cost? | OpenAI Help Center*, n.d.):

- \$0.01 per 1,000 prompt tokens for input.
- \$0.03 per 1,000 sampled tokens for output.

Since we are only considering the prompt (input) tokens in this case, the cost would be:

$$(494/1000) \times 0.01 = \$0.00494$$

Let's calculate the exact cost.

Using the GPT-4 API with a 128k context for 494 tokens, the estimated cost would be approximately \$0.00494. However, it's important to note that OpenAI rounds up the cost to the nearest thousand tokens, so you would be charged for 1,000 tokens, making the actual cost \$0.01.

The cost being almost meaningless for the length, assuming **£0.5/user/month** would be equivalent to 24,700 words or roughly 98 pages of A4 document which largely covers each user's consumption.

Here is the monthly breakdown of the AI chatbot for 2024:

Table 9 - AI chatbot 2024 monthly cost

AI chatbot Cost		
Month	Number of user	Cost per month
January	0	£0.00
February	0	£0.00
March	0	£0.00
April	0	£0.00
May	0	£0.00
June	388.00	£194.00
July	741.00	£370.50
August	1,061.00	£530.50
September	1,353.00	£676.50
October	1,619.00	£809.50
November	1,861.00	£930.50
December	2,082.00	£1,041.00
Total cost for the year		£4,552.50

3D body scan cost

We chose to use a strategy with the 3D scanning feature with Bodymapp.co (Bodymapp, 2023) that offers B2B solutions to implement their technology within our app using their API for a fast and seamless integration, reducing our initial cost at the same time.

I could not get a B2B cost preview for this feature, but knowing that their prices for an annual plan for individuals is \$49.99 /year for the yearly plan per user which is **£39.73 /year/user** or **£3.31/month/user**. (Bodymapp, 2024).

I tried to inquire with them for a detailed pricing but haven't got any answer. Knowing that it is very likely that such a partnership will allow us to get a better pricing than an individual user, I will assume **£30 /year/user** or **£2.50 /month/user**.

Here is the monthly breakdown of the 3D body scan for 2024:

Table 10 - 3D body scan 2024 monthly cost

3D body scan Cost		
Month	Number of user	Cost per month
January	0	£0.00
February	0	£0.00
March	0	£0.00
April	0	£0.00
May	0	£0.00
June	388.00	£970.00
July	741.00	£1,852.50
August	1,061.00	£2,652.50
September	1,353.00	£3,382.50
October	1,619.00	£4,047.50
November	1,861.00	£4,652.50
December	2,082.00	£5,205.00
Total cost for the year		£22,762.50

Software developer Salary

The average annual full stack developer salary in London, fluctuates between £65,000 and £110,000, spiking to £165,000 among startups (Full-Stack Engineer Salary in London Startups 2024, n.d.).

The average annual salary of a software engineer working in an Artificial Intelligence-based company within London startups is £80,000, ranging from £16,000 to £320,000 (Artificial Intelligence Startup Salaries in London, n.d.).

If there is no exact figure, an estimate could be drawn that a full-stack developer with ML and AI skills, particularly at a senior level, could demand salaries towards the upper range of the mentioned above—most likely £90,000 - £130,000 yearly on average in a London startup.

Making the average, I come up with a salary of **£110,000 /year**.

In the UK, the social security or National Insurance Contribution (NIC) is set at a rate of **13.80%** for employees and **12%** Seely and Masala (2024) for self-employed individuals which will be my case.

I will be including a table further down showing the total cost of each employee and myself.

I went on GoDaddy (*Domain Names, Websites, Hosting & Online Marketing Tools - GoDaddy UK*, n.d.) to look for a domain name, perfectform.uk is up to grab for CHF11.76 which correspond to **£10.34 /year**.

Figure 17 - PerfectForm's domain name



Notes. Screenshot from GoDaddy (Domain Names, Websites, Hosting & Online Marketing Tools - GoDaddy UK, n.d.

Stripe fees

I did some research for dealing with subscription payments and realised that going through apple store and google play would be very expensive in fees. So I decided to rather redirect our users to our website subscription portal to lower fees. Stripe is a commonly used and trusted payment portal both by consumers and businesses because it is fast and provides a wide range of payment methods. That being said, here is the breakdown of the fees we will be dealing with:

Table 11 - Stripe fees

Stripe fees on transactions		
Flat fee	Transaction fee	Recurring payment fee
£0.24	2.9%	0.5%

Table 12 - Fees per transaction on both plan

Fee per transaction Monthly subscription	£1.05
Fee per transaction Yearly subscription	£8.40

The complete breakdown of the fee amount will be available on annexe 4.

II. Marketing Cost

According to Rathore (2024), on average social media advertising costs range from £300-£500 going easily +£600 per month.

Since we are a B2C software business, marketing is a critical metric to the success of our app. Therefore, going for an aggressive growth strategy, it is reasonable to plan a **£20,000** budget for the year 2024, starting in April for our pre-launch campaign, for advertising costs on social media such as Meta, Tiktok and Instagram. We will have to take into account a **20%** increase in budget for each year to come in order to expand more rapidly

The average Social media specialist salary ranges from £23k-£34k in the UK. (*Salary: Social Media Specialist in the United Kingdom 2024*, n.d.)

To ensure the need of my startup and the success of the latter this social media expert will need skills such as SEO.

SEO: “SEO stands for “search engine optimization.” In simple terms, SEO means the process of improving your website to increase its visibility in Google, Microsoft Bing, and other search engines whenever people search for it” (Search Engine Land, 2024).

“Experienced SEO specialists and SEO leads with technical or conversion rate optimisation expertise, can earn between £35,000 to £45,000.” (*SEO Specialist Job Profile | Prospects.ac.uk*, n.d.).

Considering the expertise and the salary that goes with it, a fair compensation of **£35,000 /year** is reasonable with a 2-4 year experience profile that will endorse the role of CMO of the startup.

Our strategy to democratise our app will be to hire influencers in the health&fitness industry to promote our app and create trust, resulting in a faster user base growth.

Here is some numbers to consider before hiring an influencer taken from Andy (n.d.):

- Nano-influencers (500–10,000 followers): £10 to £100 per post
- Micro-influencers (10,000–50,000 followers): £100–£500 per post
- Mid-tier influencers (50,000–500,000 followers): £500–£5,000 per post
- Macro-influencers (500,000- 1M followers): £5,000–£10,000 per post
- Mega-influencers (1M+ followers): £10,000+ per post

I did some research and found this platform named influence.co (*Empowering the Influencer Generation - influence.co*, n.d.). This platform is basically a marketplace for hiring influencers.

Here is some Influencers that would match our need:

Figure 18 - Influencer type for PerfectForm

INFLUENCER
juliabfit
 juliabfit | 107k Reach

Where to find me
 juliabfit
 juliabfit 45.2k
 Julia Buckley 35.9k
 JuliaBFit 26.3k

DiETING Fitness Health and Wellness Workout Clothes
 Fitness Equipment

Follow Message Invite to Campaign

Audience Demographics
 Summarized audience data.

Gender & Age

Gender	45%	55%
Age	13-17	18-24
	25-34	35-44
	45-64	65+

Top Country

United Kingdom of Great Britain and Northern Ireland	24%
Ireland	

Top City

London	7%
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Bio

I'm a best selling fitness author and online fitness coach.

Previously I was a journalist for 15 years so writing is my thing - along with workouts of course!

I also love travel, the beach, boardgames, tea and my two cats!

Check out my media pack at:
<http://juliabuckleyfitness.com/cont...>

Demographics
 Female

Location
 London, England, GB

Grid of social media posts:
 - fableticsEU (@fableticseu) 913 likes, 15 comments
 - A C A I (@acai_activewear) 261 likes, 49 comments
 - fableticsEU (@fableticseu) 466 likes, 16 comments
 - SAMSUNG Samsung UK (@samsunguk) 2.6k likes, 13 comments

Notes. Screenshot taken from influencer.co (*Empowering the Influencer Generation - influence.co*, n.d.). Own elaboration.

This type would fall into the Mid-tier influencers (50,000–500,000 followers): £500–£5,000 per post, combining all her social medias being a total of 107k outreach as seen on figure 18.

Her gender and demographic audience falls perfectly into our target which would maximise our outreach and conversion rate as shown on figure 18.

For our launch campaign in June, we will plan a **£135,600** budget to hire influencers of different types to promote our app massively.

Table 13 - Special launch campaign influencer cost breakdown

June 2024 Special Launch				
Type of influencer	Number of influencers	Cost per post	Number of post per month	Cost for June
Nano-influencers	8	£50.00	15	£6,000.00
Micro-influencers	4	£300.00	8	£9,600.00
Mid-tier influencers	3	£2,500.00	8	£60,000.00
Macro-influencers	2	£7,500.00	4	£60,000.00
Total:				£135,600.00

These influencers will not only promote our app but also create us content that we could re use for ads and on other platforms. Thus, it is really important to choose experienced content creators with a portfolio as shown on figure 18.

For the rest of the year 2024, we will go with the cost breakdown table as shown on table 14.

The reason we will have smaller influencers that big ones in terms of follower count is that “influencers with less than 5,000 followers earn the most reach and engagement relative to their follower count. Smaller creators drive high engagement because they're smaller. Their audiences see them as peers offering recommendations versus celebrities making endorsements. This results in meaningful engagement and a much-needed sense of trust.” (Wiley, 2023)

Table 14 - Influencers cost breakdown

Influencers cost breakdown (July - December)					
Type of Influencer	Number of Influencers	Cost per Post	Number of post per month	Cost per month	Cost per year
Nano-influencers	8	£50.00	10	£4,000.00	£48,000.00
Micro-influencers	4	£300.00	4	£4,800.00	£57,600.00
Mid-tier influencers	3	£2,500.00	2	£15,000.00	£180,000.00
Macro-influencers	0	£7,500.00	1	£0.00	£0.00
Total:				£23,800.00	£142,800.00

Knowing that the month of June will have a different cost for our influencers, these costs will account for the five remaining months of 2024 being: $31,300 \times 6 = \mathbf{£187,800}$.

Important: I multiplied by 6 and not 5 as even though there is 5 more months to come, there will be 6 distinct payments.

As a final marketing strategy, we aim to advertise in gyms directly through digital 6 sheet screens. Such as these on figure 19.

Figure 19 - Screen advertising display in Gyms

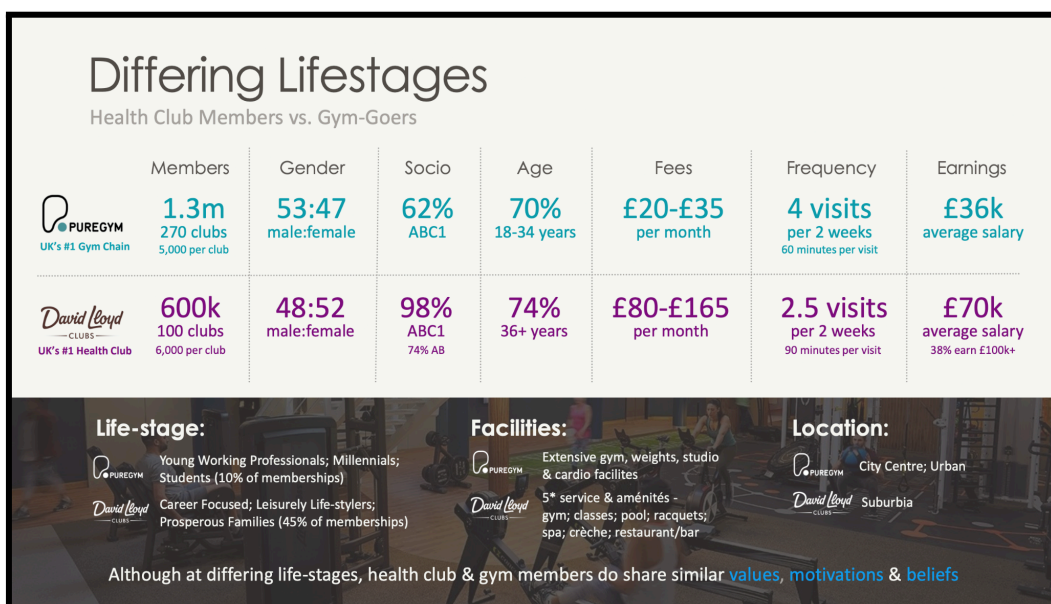


Note. Those are screens located inside many popular gym chains in the UK such as PureGym. Taken from retail adverts (Retail Adverts, 2024).

“Advertising on digital gym screens typically costs between £600 and £1,000. This is per screen per two weeks.”(Retail Adverts, 2024).

For the purpose of our project, we’ll take the average being £800 /screen/two weeks or **£1,600 /screen/month.**

Figure 20 - Comparison of gym members’ demographic



Note. This figure compares Puregym, the first gym chain in the UK in terms of members and David Lloyd, a luxury gym-club chain in the UK. Taken from Health & Fitness Media 2022 Media Kit (Active Advertising, n.d.)

Advertising at Puregym locations will allow us to reach our target demographic.

Puregym “offer over 60 great value London gyms all across the city” (*Gyms in London | PureGym*, n.d.). To start with, we will choose 10 locations in London to start advertising our app from June 2024. The total cost breakdown for 2024 is as follows on table 15.

Table 15 - Screen advertising in gyms cost 2024

Screen advertising cost			
Number of screens	Cost per screen per month	Cost per month	Total cost
6	£1,600.00	£9,600.00	£67,200.00

Here is the overall marketing cost by months

Table 16 - Total marketing cost 2024

2024			
Months	Influencer monthly cost	Screen advertising monthly cost	Social media advertising cost
January	£0.00	£0.00	£0.00
February	£0.00	£0.00	£0.00
March	£0.00	£0.00	£0.00
April	£0.00	£0.00	£2,222.22
May	£0.00	£0.00	£2,222.22
June	£135,600.00	£9,600.00	£2,222.22
July	£23,800.00	£9,600.00	£2,222.22
August	£23,800.00	£9,600.00	£2,222.22
September	£23,800.00	£9,600.00	£2,222.22
October	£23,800.00	£9,600.00	£2,222.22
November	£23,800.00	£9,600.00	£2,222.22
December	£23,800.00	£9,600.00	£2,222.22
Sum costs	£278,400.00	£67,200.00	£20,000.00
Total cost			£365,600.00

III. Material, office and other salary

Computer

To run tests of our app and for our developer to strive for a powerful computer that won't slow him down in the development of the app.

A £4,000 investment for a powerful computer will be needed allowing our developer to carry intensive computing.

Office space

During my personal internships in the startup world here in Lanzadera, I realised how important the work environment is especially with like minded people. It allows great motivation and more importantly connection and networking during the day at any moment.

With that in mind, opting for open co working spaces only makes sense for our startup to strive for. On average, economical office space goes for £455 per desk per month in London (Team, 2024).

Being 3 in the team, our cost will be $455 \times 3 = \text{£}1,365$ /month $\Leftrightarrow \text{£}16,380$ /year.

As a final cost, I need to calculate my salary as CEO, which amounts to £30,000 per year. This will enable me to cover all my bills and expenses while living in London.

Table 17 - Salary breakdown for 2024

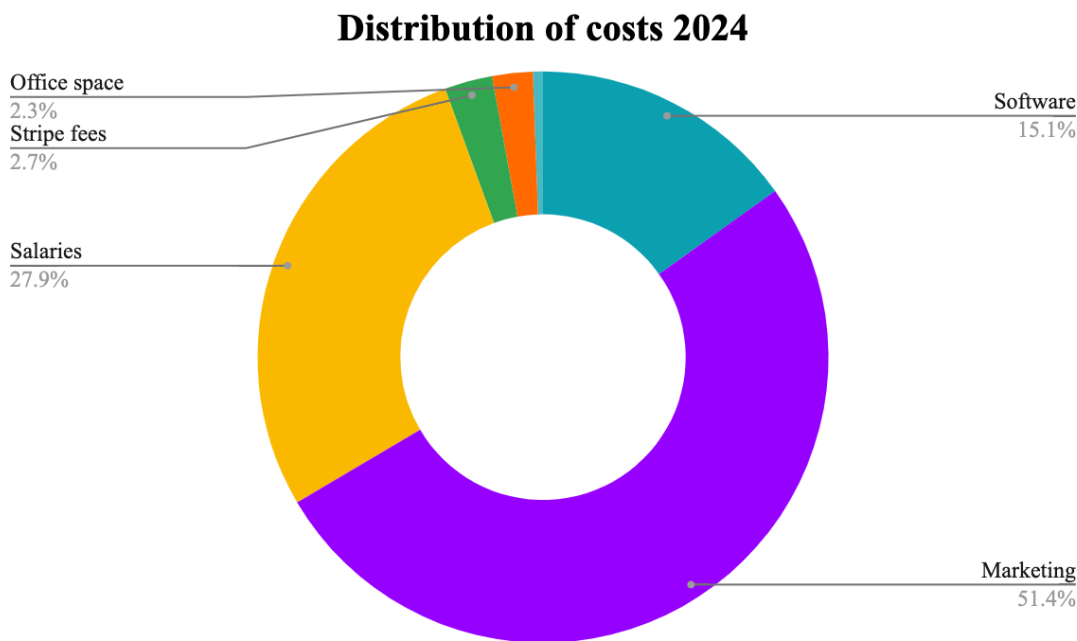
2024								
Type of employee	Number of employee	Base Salary	% Social security (NIC)	Social security	Total cost per employee	Total salary	Total social security	Total cost
Software Dev	1.00	£110,000.00	13.80%	£15,180.00	£125,180.00	£110,000.00	£15,180.00	£125,180.00
CMO	1.00	£35,000.00	13.80%	£4,830.00	£39,830.00	£35,000.00	£4,830.00	£39,830.00
CEO	1.00	£30,000.00	12.00%	£3,600.00	£33,600.00	£30,000.00	£3,600.00	£33,600.00
TOTAL	3.00					£175,000.00	£23,610.00	£198,610.00

Note. For the next 5 years, a 3% increase in salary is expected for each position.

Table 18 - Total monthly cost 2024

Total monthly cost												
2024	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Variable Costs												
Firestore	£478.97	£478.97	£483.71	£483.71	£483.71	£565.90	£646.06	£718.73	£785.04	£845.45	£900.40	£950.59
AI chatbot	£0.00	£0.00	£0.00	£0.00	£0.00	£194.00	£370.50	£530.50	£676.50	£809.50	£930.50	£1,041.00
3D body scan	£0.00	£0.00	£0.00	£0.00	£0.00	£970.00	£1,852.50	£2,652.50	£3,382.50	£4,047.50	£4,652.50	£5,205.00
Software Dev salary	£10,431.67	£10,431.67	£10,431.67	£10,431.67	£10,431.67	£10,431.67	£10,431.67	£10,431.67	£10,431.67	£10,431.67	£10,431.67	£10,431.67
CMO salary	£3,319.17	£3,319.17	£3,319.17	£3,319.17	£3,319.17	£3,319.17	£3,319.17	£3,319.17	£3,319.17	£3,319.17	£3,319.17	£3,319.17
Influencers	£0.00	£0.00	£0.00	£0.00	£0.00	£135,600.00	£23,800.00	£23,800.00	£23,800.00	£23,800.00	£23,800.00	£23,800.00
Screen Advertising	£0.00	£0.00	£0.00	£0.00	£0.00	£9,600.00	£9,600.00	£9,600.00	£9,600.00	£9,600.00	£9,600.00	£9,600.00
CEO salary	£2,800.00	£2,800.00	£2,800.00	£2,800.00	£2,800.00	£2,800.00	£2,800.00	£2,800.00	£2,800.00	£2,800.00	£2,800.00	£2,800.00
Computer	£4,000.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00
Social media advertising	£0.00	£0.00	£0.00	£2,222.22	£2,222.22	£2,222.22	£2,222.22	£2,222.22	£2,222.22	£2,222.22	£2,222.22	£2,222.22
Stripe fees	£0.00	£0.00	£0.00	£0.00	£0.00	£2,390.35	£2,520.83	£2,648.13	£2,767.01	£2,877.47	£2,971.10	£3,066.82
Fixed Costs												
Domain name	£0.86	£0.86	£0.86	£0.86	£0.86	£0.86	£0.86	£0.86	£0.86	£0.86	£0.86	£0.86
Office space	£1,365.00	£1,365.00	£1,365.00	£1,365.00	£1,365.00	£1,365.00	£1,365.00	£1,365.00	£1,365.00	£1,365.00	£1,365.00	£1,365.00
Google Cloud	£6,033.07	£6,033.07	£6,033.07	£6,033.07	£6,033.07	£6,033.07	£6,033.07	£6,033.07	£6,033.07	£6,033.07	£6,033.07	£6,033.07
Total cost	£28,428.74	£24,428.74	£24,433.47	£26,655.69	£26,655.69	£175,492.24	£64,961.88	£66,121.85	£67,183.03	£68,151.90	£69,026.49	£69,835.39

Figure 21 - Distribution of all the costs 2024



This donut chart offers an overview of the distribution of all the costs summed together for 2024.

Software includes : Google cloud, Firebase, AI chatbot and 3D body scan.

Marketing includes: Influencers, Screen advertising and Social media advertising.

Salaries include: CMO, CEO and software dev salaries.

6.2 Economic Needs of the Project

Looking at the needs for the project, **£400,000** investment will be needed to cover these costs and any other unexpected costs during the first year of the startup.

6.3 Funding Sources

Attracting investors from many sectors will be key to the well being and growth of our startup. Diversifying through government grants, venture capitals, Angel investors, Crowdfunding, EU funding will maximise the investment needed.

Government Grants

Innovate UK Smart Grant: This is the marquee grant programme by the government, totalling £125 million to hand out to British businesses every year. This Smart Grant can be awarded under the umbrella of 'Open grant funding' of Innovative UK, targeting 'the best game-changing and commercially viable projects'. Generally, it runs three to four times a year and has project costs ranging from £25,000 to £2 million (Funding, n.d.).

Venture Capital

“Venture capital (VC) is a form of private equity and a type of financing for startup companies and small businesses with long-term growth potential.” (Hayes, 2024)

Our startup being heavily AI based, we will look for VCs that invest the most in this type of startup field. The top 5 in the UK are **Amadeus Capital Partners, MMC Ventures, IQ Capital, Scottish Investment Bank, Parkwalk Advisors** (*Top 50 Artificial Intelligence VC Funds in the United Kingdom — Apr 2024, 2024*).

Approaching them with a solid financial projection plan and our unique value proposition will allow us to drive these Ventures into trusting us by investing in our project.

Angel Investors

Targeting Angel investors with experience in AI-based startups, should bring valuable expert insight to the table on AI technology and its application in fitness, strategic guidance tailor-made to carve through the AI landscape, and key connections in the industry. It would add to the credibility of our startup and bring in more top investment and talent. It also captures the long-term commitment for which AI ventures are required. Their experiences can be useful in managing the specific risks that are required to take care of data privacy and ethical considerations for a strong approach toward integrating AI with fitness solutions.

Some of the top angel investors in AI-based startups in the UK are Chris Adelsbach, Will Martin, Will Brooks, Charlie Songhurst, William Tunstall-Pedoe (*Top 50 Artificial Intelligence Angel Investors in United Kingdom — Apr 2024, 2024*).

CrowdFunding

“Crowdfunding is the use of small amounts of capital from a large number of individuals to finance a new business venture.” (Smith, 2023)

Crowdfunding would be a valuable asset for PerfectForm, in the sense that it will enable us to validate the market. We could make money at the first point of contact with the consumers and likely build a community of early adopters of our product or service. This would provide more visibility to the brand, as the company would be effectively marketing on a budget without giving up equity. This is going to enable us to use the feedback from the backers to enhance the product with more vivid touches of what the client actually wants. More so, the pre-sales of the campaign will further support our cash flows by giving us revenues in advance, which will be used for the software development costs. It will help in funding our development to build a supportive community that will invest in the success of our innovative fitness technology solutions.

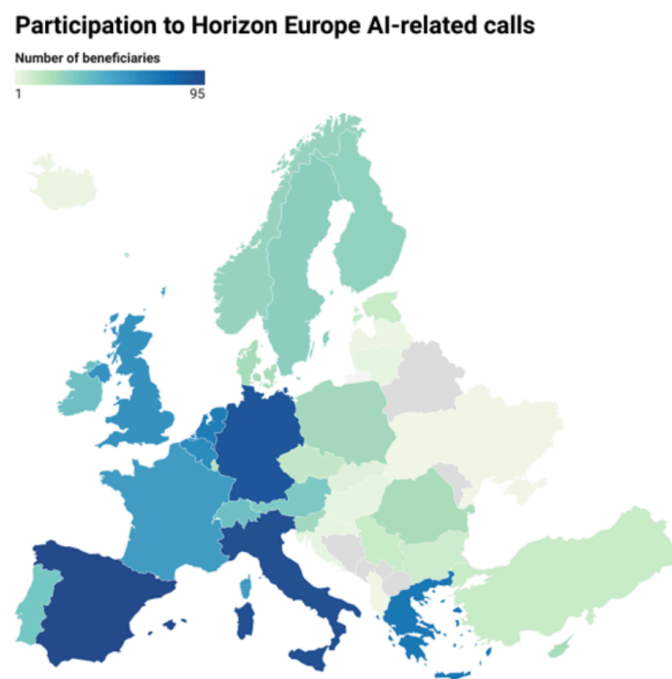
Popular crowdfunding platforms such as Kickstarter (*Kickstarter*, n.d.) or Crowdfunder (*Start Crowdfunding on Crowdfunder UK*, n.d.) will help us reach our funding goals.

European Union Funding

“The EU may have adopted a cohesive R&I strategy for artificial intelligence but participation and funding relating to Horizon Europe AI initiatives” (*Geographical Imbalances Remain in AI Research Funding*, n.d.).

The Horizon Europe program provides the scale of benefits with its €95.5 billion budget, which gives us opportunities to access large-scale funding and collaborate with the very best European researchers and institutions. This strongly supports advanced innovations that are high risks which makes sense for our AI-based technology. Being a UK startup, we can compete with the EU members for purposeful collaborations and hence work together in facing major challenges and accelerating the development of our app-based service.

Figure 21 - Participation to Horizon Europe AI-related calls



Source: CORDIS - Created with Datawrapper

Note. This map shows the countries where there are the most grants given. Taken from Science Business (*Geographical Imbalances Remain in AI Research Funding*, n.d.).

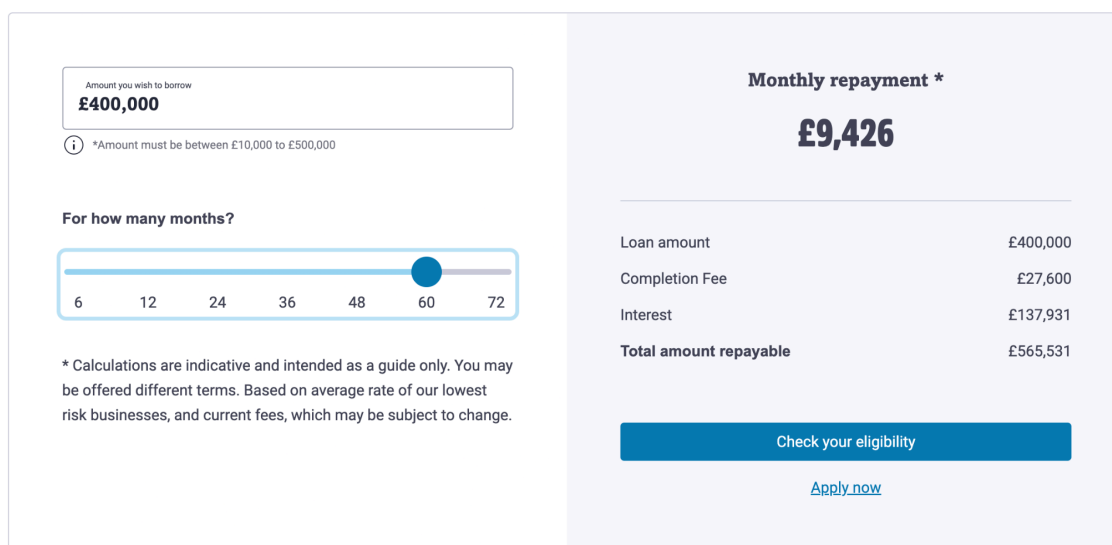
Looking at these possibilities, we will definitely apply for different government and European Grants to fund our project.

However, these grants not being certain, we decided to opt for a traditional bank loan on a 60 months plan to rapidly get access to cash and start our process.

We will apply for a business loan from Funding Circle (*Business Loan Calculator | Get a Quote on Your Loan | Funding Circle*, n.d.). They offer business loans up to £500,000 within a few days upon being accepted and signing the contract.

I used their loan generator to have an idea of the repayment as shown on figure 22.

Figure 22 - Breakdown of the loan



Note. Taken from funding circle loan generator (*Business Loan Calculator | Get a Quote on Your Loan | Funding Circle*, n.d.). Own elaboration.

While doing my amortisation table on my excel file available in the annexe 1, I realised that the monthly repayment wasn't exactly correct. So I use the APR and PMT formula to get the exact monthly payments.

Table 19 - Bank loan breakdown

Bank loan	
Loan Amount	£ 400,000.00
Completion Fee	£ 27,600.00
Adjusted Principal	£ 427,600.00
Total Interest Paid	£ 137,931.00
Total Amount Repayable	£ 565,531.00
Monthly Repayment	£ 8,726.89
Loan Term (months)	60
Loan Term (years)	5
% APR	8.28%
% Monthly APR	0.68971%

To calculate the correct monthly repayment, I used the PMT formula:

$$\text{PMT}(\text{rate}, \text{nper}, \text{pv}, [\text{fv}], [\text{type}])$$

Rate: The interest rate for the loan.

Nper: The total number of payments for the loan.

Pv: The present value, or the total amount that a series of future payments is worth now; also known as the principal.

Fv: The future value, it is assumed to be 0 (zero), that is, the future value of a loan is 0.

Type: The number 0 (zero) or 1 and indicates when payments are due.

Table 20 - Amortisation of the loan for 2024

Amortisation Table of the loan					
Month	Remaining principal	Interest payment	Principal repayment	New remaining principal	
1	£427,600.00	£2,949.21	£5,777.68	£421,822.32	
2	£421,822.32	£2,909.36	£5,817.53	£416,004.79	
3	£416,004.79	£2,869.24	£5,857.65	£410,147.14	
4	£410,147.14	£2,828.84	£5,898.05	£404,249.08	
5	£404,249.08	£2,788.16	£5,938.73	£398,310.35	
6	£398,310.35	£2,747.20	£5,979.69	£392,330.65	
7	£392,330.65	£2,705.95	£6,020.94	£386,309.72	
8	£386,309.72	£2,664.43	£6,062.46	£380,247.25	
9	£380,247.25	£2,622.61	£6,104.28	£374,142.97	
10	£374,142.97	£2,580.51	£6,146.38	£367,996.59	
11	£367,996.59	£2,538.12	£6,188.77	£361,807.82	
12	£361,807.82	£2,495.43	£6,231.46	£355,576.37	

Note. The complete amortisation table of the loan will be provided in the annexe 1.

6.4 Financial Plan

Our financial plan covers 2024 to 2028, including projections for each year. This plan will focus on several key areas: the balance sheet, operating cash flows, amortisations and depreciations of assets, and the income statement projection.

Financial ratios, including debt, solvency, liquidity, and profitability, have been calculated to measure the business's success and profitability. Additionally, a thorough analysis of crucial key performance indicators (KPIs) such as Customer Acquisition Cost (CAC), Customer Lifetime Value (CLV), Monthly Recurring Revenue (MRR), and the CLV/CAC ratio will be included, providing vital information for subscription-based businesses.

Balance Sheet

Table 21 - Projection of the balance sheet

Category	2024	2025	2026	2027	2028
Assets					
Current Assets					
Cash	£ 113,010.57	£ 96,447.50	£ 127,713.55	£ 206,324.77	£ 342,176.16
Non-current Assets					
Tangible asset					
Computer	£ 3,320.00	£ 2,640.00	£ 1,960.00	£ 1,280.00	£ 600.00
Intangible assets					
Software	£ 160,316.23	£ 133,596.86	£ 106,877.49	£ 80,158.12	£ 53,438.74
Google Cloud	£ 60,330.68	£ 48,264.54	£ 36,198.41	£ 24,132.27	£ 12,066.14
Domain Name	£ 10.34	£ 10.34	£ 10.34	£ 10.34	£ 10.34
TOTAL Assets	£ 336,987.82	£ 280,959.24	£ 272,759.78	£ 311,905.50	£ 408,291.38
Liabilities					
Current liabilities					
Short term debt	£ 72,023.63	£ 78,216.12	£ 84,941.02	£ 92,244.11	£ 100,175.12
Non-current liabilities					
Long-term debt	£ 355,576.37	£ 277,360.25	£ 192,419.23	£ 100,175.12	£ -
TOTAL Liabilities	£ 427,600.00	£ 355,576.37	£ 277,360.25	£ 192,419.23	£ 100,175.12
Equity					
Contributed Capital	£ 400,000.00	£ 400,000.00	£ 400,000.00	£ 400,000.00	£ 400,000.00
Adjusted Retained earnings	£ (490,612.18)	£ (474,617.12)	£ (404,600.47)	£ (280,513.73)	£ (91,883.74)
TOTAL Equity	£ (90,612.18)	£ (74,617.12)	£ (4,600.47)	£ 119,486.27	£ 308,116.26

We expect to recover from a negative equity by 2026 and increase it for the coming years.

Operating cash flows

Table 22 - Operating cash flows for 2024

Operating Cashflows												
2024	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Starting Cash Balance	£ -	£ 358,844.37	£ 325,688.74	£ 292,528.38	£ 257,145.80	£ 221,763.22	£ 105,150.92	£ 102,139.90	£ 101,015.94	£ 101,685.91	£ 104,050.20	£ 107,771.17
Cash Received												
Cash from Subscription	£ -	£ -	£ -	£ -	£ -	£ 67,606.83	£ 70,677.75	£ 73,724.78	£ 76,579.89	£ 79,243.08	£ 81,474.35	£ 83,801.68
Subtotal Cash from Operations	£ -	£ 358,844.37	£ 325,688.74	£ 292,528.38	£ 257,145.80	£ 289,370.05	£ 175,828.67	£ 175,864.68	£ 177,595.83	£ 180,928.99	£ 185,524.55	£ 191,572.85
Additional Cash Received												
New Investment Received	£ 400,000.00	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
Subtotal Cash Received	£ 400,000.00	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
Total Cash Received	£ 400,000.00	£ 358,844.37	£ 325,688.74	£ 292,528.38	£ 257,145.80	£ 289,370.05	£ 175,828.67	£ 175,864.68	£ 177,595.83	£ 180,928.99	£ 185,524.55	£ 191,572.85
Expenditures												
Operating activities	£ (28,428.74)	£ (24,428.74)	£ (24,433.47)	£ (26,655.69)	£ (26,655.69)	£ (175,492.24)	£ (64,961.88)	£ (66,121.85)	£ (67,183.03)	£ (68,151.90)	£ (69,026.49)	£ (69,835.39)
Subtotal Spent on Operations	£ (28,428.74)	£ (24,428.74)	£ (24,433.47)	£ (26,655.69)	£ (26,655.69)	£ (175,492.24)	£ (64,961.88)	£ (66,121.85)	£ (67,183.03)	£ (68,151.90)	£ (69,026.49)	£ (69,835.39)
Additional Cash Spent												
Interest payment	£ (2,949.21)	£ (2,909.36)	£ (2,869.24)	£ (2,828.84)	£ (2,788.16)	£ (2,747.20)	£ (2,705.95)	£ (2,664.43)	£ (2,622.61)	£ (2,580.51)	£ (2,538.12)	£ (2,495.43)
Principal repayment	£ (5,777.68)	£ (5,817.53)	£ (5,857.65)	£ (5,898.05)	£ (5,938.73)	£ (5,979.69)	£ (6,020.94)	£ (6,062.46)	£ (6,104.28)	£ (6,146.38)	£ (6,188.77)	£ (6,231.46)
Purchase of Current Assets	£ (4,000.00)	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
Subtotal Cash Spent	£ (12,726.89)	£ (8,726.89)	£ (8,726.89)	£ (8,726.89)	£ (8,726.89)	£ (8,726.89)	£ (8,726.89)	£ (8,726.89)	£ (8,726.89)	£ (8,726.89)	£ (8,726.89)	£ (8,726.89)
Total Cash Spent	£ (41,155.63)	£ (33,155.63)	£ (33,160.36)	£ (35,382.58)	£ (35,382.58)	£ (184,219.13)	£ (73,688.77)	£ (74,848.74)	£ (75,909.93)	£ (76,878.79)	£ (77,753.38)	£ (78,562.29)
Net Cash Flow	£ 358,844.37	£ 325,688.74	£ 292,528.38	£ 257,145.80	£ 221,763.22	£ 105,150.92	£ 102,139.90	£ 101,015.94	£ 101,685.91	£ 104,050.20	£ 107,771.17	£ 113,010.57

We expect to stay positive all along the first year and the years coming thanks to the injection of the loan in January.

Amortisation of intangible assets

Google has extended the useful life of its servers and networking equipment to 6 years, which can result in significant cost savings. This extension reflects continuous improvements in hardware and software, making GCP a cost-effective option for long-term use.

Table 23 - Google cloud amortisation

Asset to Amortise	Google Cloud
Value	£72,396.81
Method of amortisation	Straight-line
Useful Life (years)	6
Annual depreciation expense	£12,066.14

Table 24 - Google cloud amortisation table by years

Amortisation Table (Google Cloud)				
	Asset Value		Annual	
	Years beginning of year		amortisation	Value end
			expense	of year
	2024	£72,396.81	£12,066.14	£60,330.68
	2025	£60,330.68	£12,066.14	£48,264.54
	2026	£48,264.54	£12,066.14	£36,198.41
	2027	£36,198.41	£12,066.14	£24,132.27
	2028	£24,132.27	£12,066.14	£12,066.14
	2029	£12,066.14	£12,066.14	£0.00

Firestore being a google service as well, the same useful life is applied. I summed all the costs related to the development of the application in order to get a value for the software.

Table 25 - Software amortisation

Asset to Amortise	Software (Firestore, AI chatbot, 3D body scan, dev salary)
Value	£160,316.23
Method of amortisation	Straight-line
Useful Life (years)	6
Annual depreciation expense	£26,719.37

Table 26 - Software amortisation table by years

Amortisation Table (Software)				
	Asset Value		Annual	
	Years beginning of year		amortisation	Value end
			expense	of year
	2024	£160,316.23	£26,719.37	£133,596.86
	2025	£133,596.86	£26,719.37	£106,877.49
	2026	£106,877.49	£26,719.37	£80,158.12
	2027	£80,158.12	£26,719.37	£53,438.74
	2028	£53,438.74	£26,719.37	£26,719.37
	2029	£26,719.37	£26,719.37	£0.00

Adding the annual amortisation expenses, this gives us this table for the coming years:

Table 27 - Sum of amortisation of intangible assets

Years	Sum of Amortisation
2024	£38,785.51
2025	£38,785.51
2026	£38,785.51
2027	£38,785.51
2028	£38,785.51

For our domain name, its useful life is infinite as long as we have the licence. Therefore we will not amortise it.

Depreciation of tangible asset

The only asset to depreciate over the coming years is the computer over 5 years:

Table 28 - Computer depreciation

Asset to depreciate	Computer
Value	£4,000.00
Method of depreciation	Straight-line
Salvage Value	£600.00
Useful Life (years)	5
Annual depreciation expense	£680.00

Table 29 - Computer depreciation table by years

Depreciation Table				
Years	Asset Value beginning of year	Annual depreciation expense	Value end of year	
2024	£4,000.00	£680.00	£3,320.00	
2025	£3,320.00	£680.00	£2,640.00	
2026	£2,640.00	£680.00	£1,960.00	
2027	£1,960.00	£680.00	£1,280.00	
2028	£1,280.00	£680.00	£600.00	

6.5 Profitability of the Project

Income Statement

Figure 23 - Profit/Loss projections

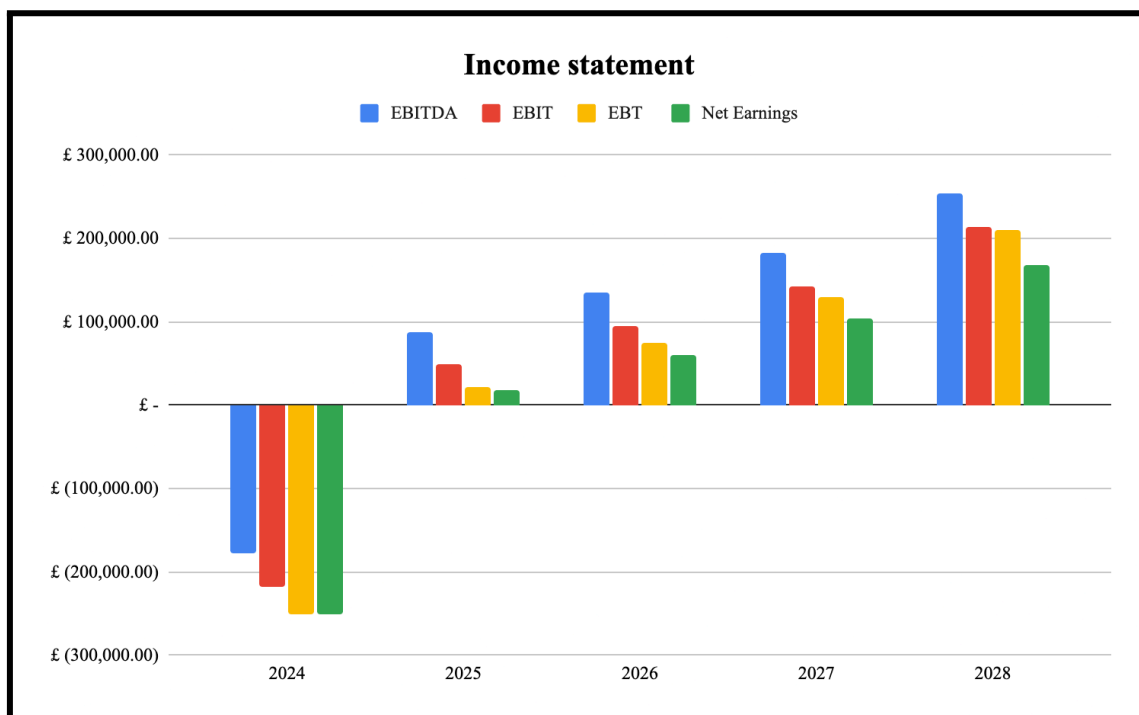


Table 30 - Income Statement projections table

Category	2024	2025	2026	2027	2028
EBITDA	£ (178,266.75)	£ 88,159.62	£ 134,613.73	£ 181,709.91	£ 253,727.07
E.B.I.T	£ (217,732.25)	£ 48,694.11	£ 95,148.23	£ 142,244.41	£ 214,261.56
E.B.T	£ (250,431.31)	£ 22,187.54	£ 75,366.55	£ 129,765.83	£ 209,714.00
NET EARNINGS	£ (250,431.31)	£ 17,750.03	£ 60,293.24	£ 103,812.67	£ 167,771.20

The income tax registered for each year is 20%.

We expect to undergo negative earnings in 2024 but will recover from that loss the next year.

Our only income source will be through our subscription model, as shown on table 31

Table 31 - Sales Projections over the years

Category	2024	2025	2026	2027	2028
Net sales					
Subscription	£ 533,108.36	£ 1,326,438.67	£ 1,719,947.89	£ 1,998,222.23	£ 2,293,681.41
Total net sales	£ 533,108.36	£ 1,326,438.67	£ 1,719,947.89	£ 1,998,222.23	£ 2,293,681.41

Our gross margin after CoGS is expected to be positive throughout all years and constantly increasing as shown on table 32.

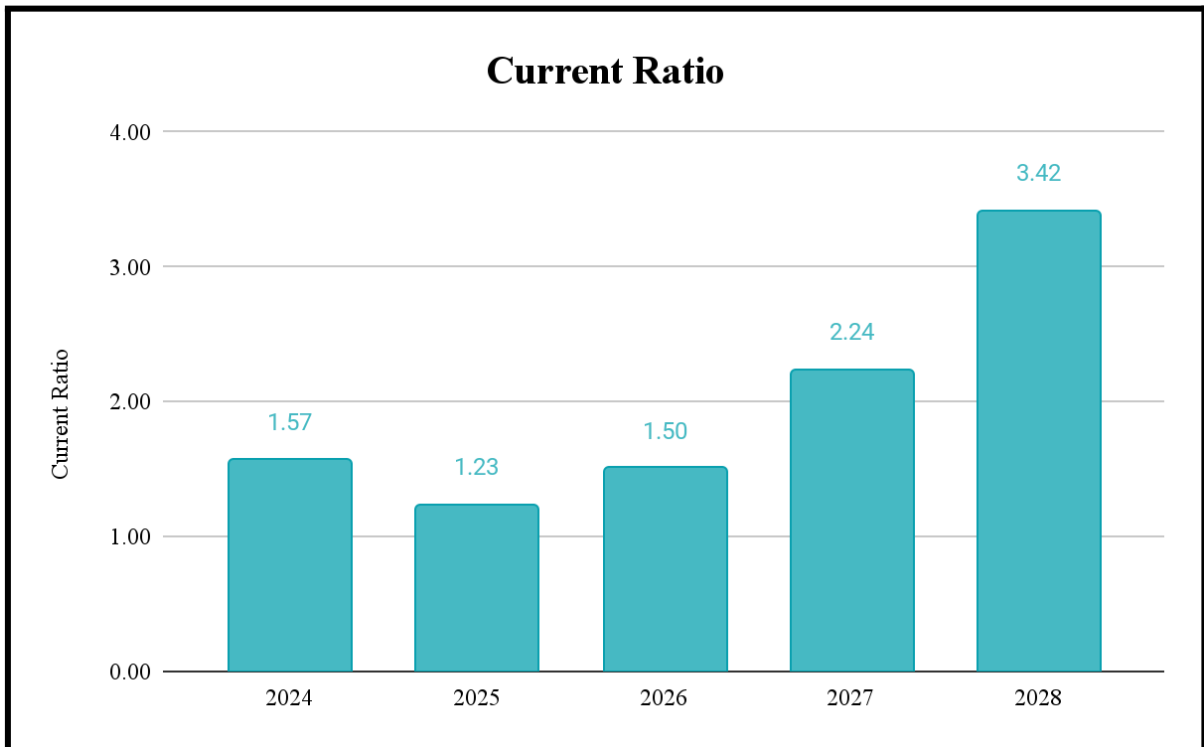
Table 32 - Gross Margin over the years

Category	2024	2025	2026	2027	2028
Gross Margin	£ 277,143.25	£ 950,172.52	£ 1,146,895.62	£ 1,375,368.86	£ 1,621,066.18
% Gross Margin	52%	72%	67%	69%	71%

The entire income statement will be available in the annexe 3.

Financial Ratio

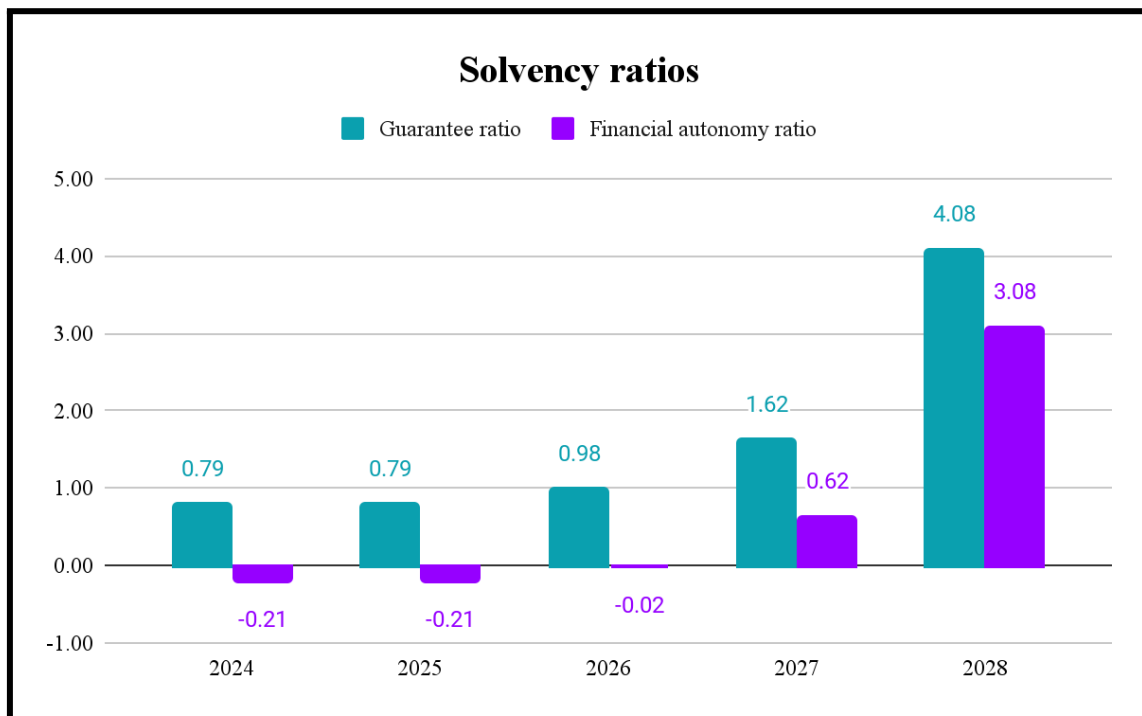
Figure 24 - Current ratio



“The current ratio is a liquidity ratio that measures a company’s ability to pay short-term obligations or those due within one year.” (Fernando, 2024)

In 2024, we anticipate a ratio of 1.57, indicating a solid liquidity position to cover short-term obligations. By 2025, we expect a slight dip to 1.23 as we continue investing in our growth initiatives. In 2026, we forecast an improvement to 1.50, demonstrating our efforts to strengthen our liquidity. By 2027, a significant rise to 2.24 is projected, indicating strong liquidity and financial health. Finally, by 2028, we aim for a robust ratio of 3.42, signifying exceptional liquidity and efficient asset management.

Figure 25 - Solvency ratios



“First, the guarantee ratio is the Relationship between company assets and its total debt. Allows the guarantee offered by companies to their creditors to be accredited to deal with payment obligations.” (*Definition Guarantee Ratio*, n.d.)

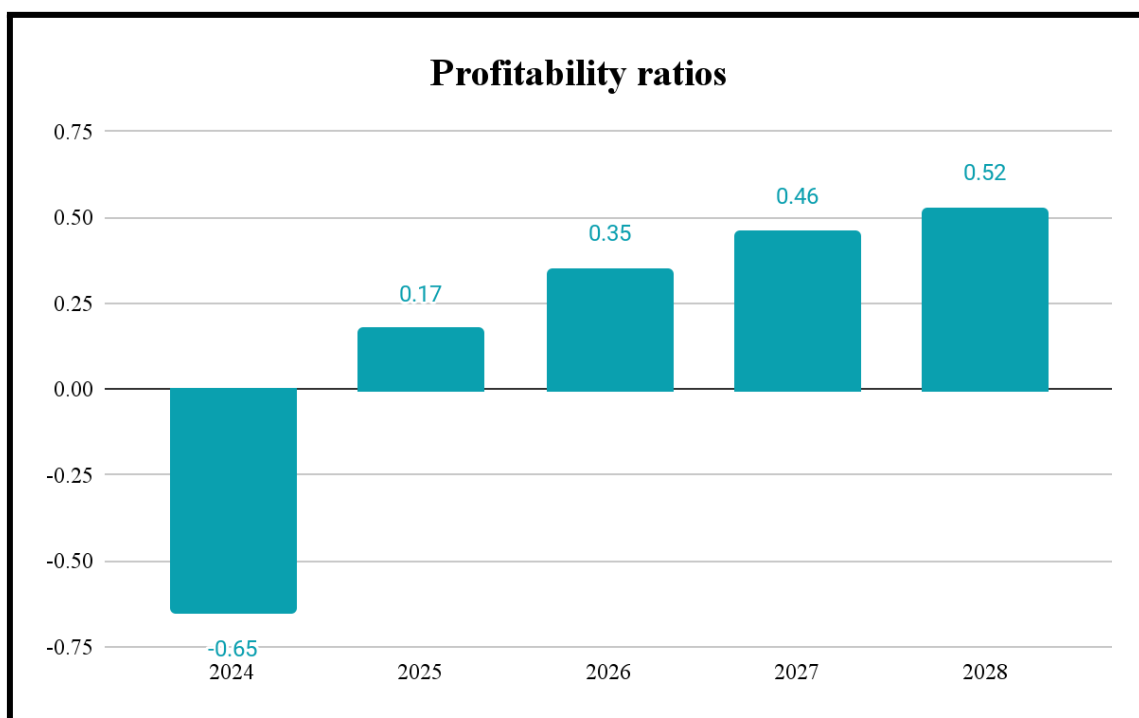
“The financial autonomy ratio measures the degree of a company's financial independence from external sources of financing. It shows what proportion of the company's total assets are financed by its own funds (equity) rather than borrowed funds (debt).” (ChatGPT)

For the Guarantee Ratio, we anticipate a solid position of 0.79 in 2024 and 2025, demonstrating moderate solvency. In 2026, we forecast a further improvement to 0.98, indicating increased robustness. By 2027, a significant rise to 1.62 is projected, showcasing our strong financial health. Finally, by 2028, we aim for an exceptional 4.08, highlighting our robust financial position.

Similarly, for the Financial Autonomy Ratio, we project an initial figure of -0.21 in 2024 and 2025 indicating some reliance on external financing. By 2027, we expect a substantial improvement to 0.62, demonstrating strong financial independence. Finally, by 2028, we aim for a very strong 3.08, underscoring our significant financial

independence and stability. These projections reflect our commitment to building a financially sound and autonomous company, driving long-term value for our stakeholders.

Figure 26 - Profitability ratios

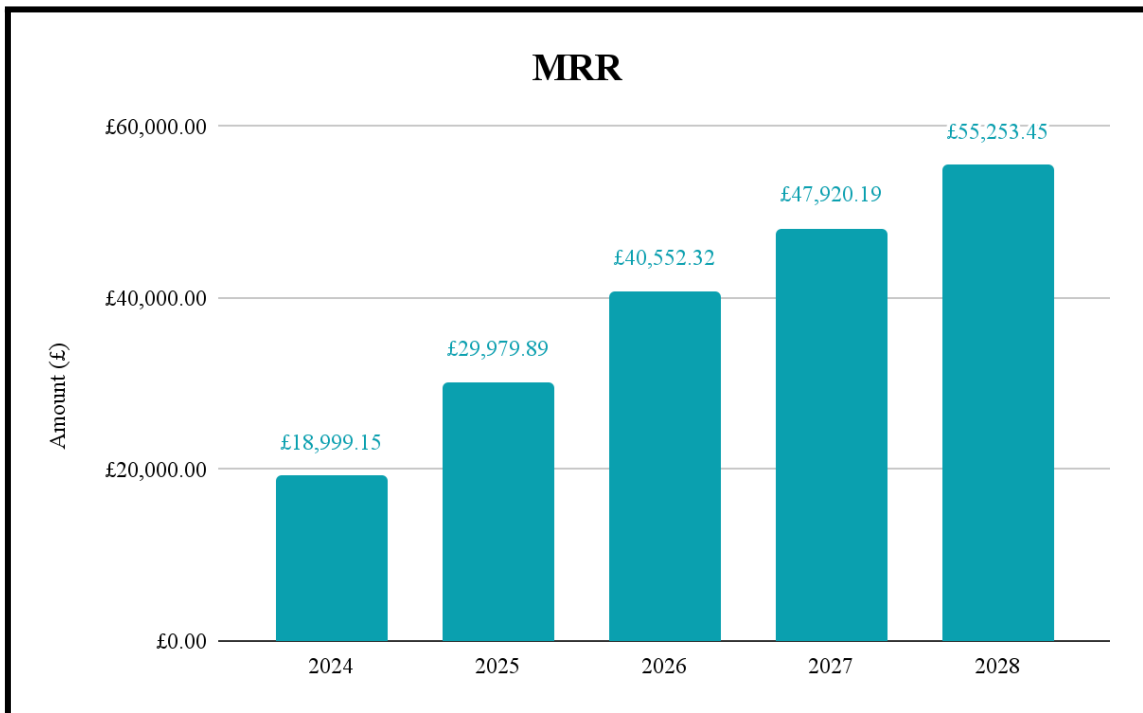


The ROA will measure the profitability compared to our total assets, while the ROE is an indicator of our profitability over our equity.

For our ROA, we anticipate an initial figure of -0.65 in 2024, reflecting the early stages of our investment phase. By 2025, we expect to turn positive with a ROA of 0.17, indicating improving efficiency. In 2026, we forecast a further increase to 0.35, showcasing continued enhancement in asset utilisation. By 2027, a rise to 0.46 is projected, reflecting stable and efficient asset management. Finally, by 2028, we aim for a robust ROA of 0.52, underscoring our effective use of assets to generate returns.

Key performance indicators

Figure 27 - Monthly Recurring Revenue



“Monthly Recurring Revenue (MRR) is the income that a company expects to receive in payments on a monthly basis.” (*What Is MRR? How to Calculate & Increase Your Monthly Recurring Revenue*, n.d.)

$$\text{MRR} = \text{Total number of paying users} \times \text{ARPU}$$

Table 33 - MRR calculation breakdown

MRR Calculation breakdown by months								
2024								
	New Users	Monthly subscription revenue	Yearly subscription revenue	Normalised yearly revenue	Total Revenue	ARPU	MRR	Average annually MRR
June	388	£2,806.83	£64,800.00	£9,257.14	£12,063.97	£31.09	£12,063.97	£18,999.15
July	392	£5,397.75	£65,280.00	£9,325.71	£14,723.46	£37.56	£14,723.46	
August	396	£7,724.78	£66,000.00	£9,428.57	£17,153.35	£43.32	£17,153.35	
September	400	£9,859.89	£66,720.00	£9,531.43	£19,391.32	£48.48	£19,391.32	
October	404	£11,803.08	£67,440.00	£9,634.29	£21,437.37	£53.06	£21,437.37	
November	408	£13,554.35	£67,920.00	£9,702.86	£23,257.21	£57.00	£23,257.21	
December	412	£15,161.68	£68,640.00	£9,805.71	£24,967.39	£60.60	£24,967.39	

Note. See annexe 2 for the entire table.

Explanation of MRR Calculation breakdown by months table:

Month: The month for which the calculation is being made.

New Users: The number of new users acquired in that month.

Monthly Subscription Revenue: Revenue generated from monthly subscriptions.

Yearly Subscription Revenue: Revenue generated from yearly subscriptions.

Normalised Yearly Revenue: The yearly subscription revenue divided by 12 (except for 2024 where is divided by the number of months of activity being 7) to distribute it evenly across each month.

Total Revenue (Monthly + Normalised Yearly): The sum of the monthly subscription revenue and the normalised yearly revenue.

ARPU (Total Revenue / New Users): The Average Revenue Per User calculated by dividing the total revenue by the number of new users.

MRR (New Users * ARPU): The Monthly Recurring Revenue calculated by multiplying the number of new users by the ARPU.

Total MRR: Sum of MRR for each month.

The last step was to get the average of all the Total MRR for each month.

We anticipate our MRR to start at £18,999.15 in 2024, reflecting our initial market penetration. By 2025, we project an increase to £29,979.89 as our customer base expands and our subscription model gains traction. In 2026, we expect further growth to £40,552.32, indicating strong market adoption. By 2027, our MRR is forecasted to reach £47,920.19, showcasing continued success in customer retention and acquisition.

Finally, by 2028, we aim for an MRR of £55,253.45, reflecting robust and sustainable revenue growth.

For the following KPIs, I needed to gather important metrics:

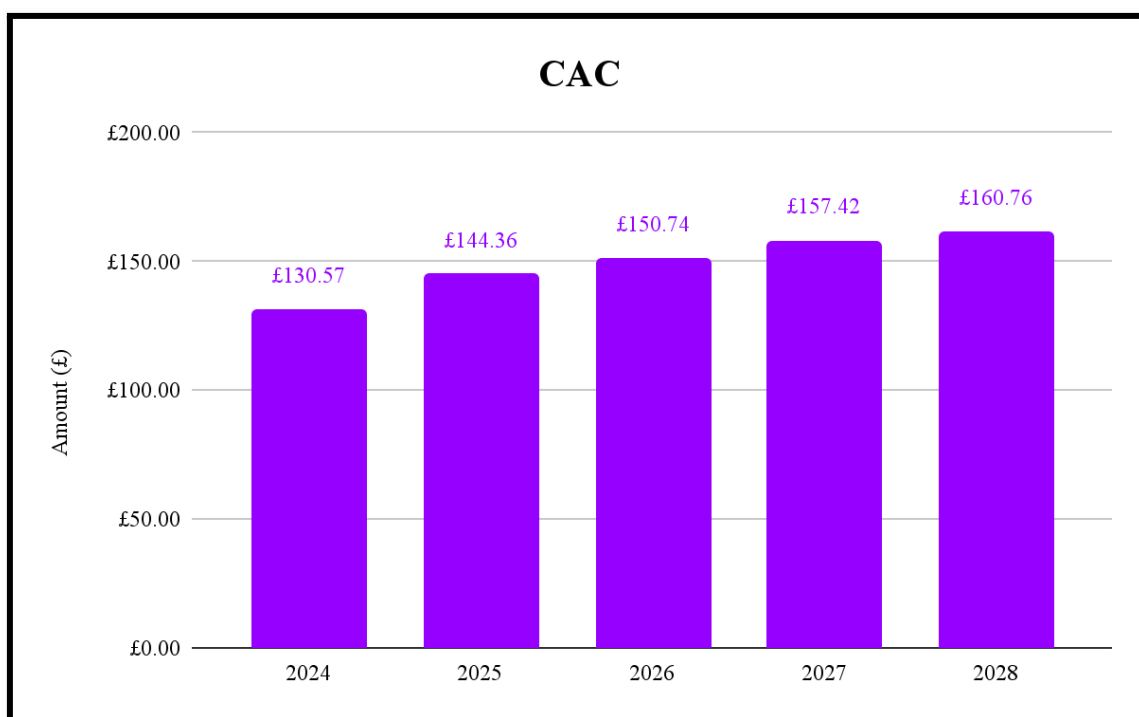
Table 34 - Variables for KPIs

Variables for KPIs					
	2024	2025	2026	2027	2028
Total number of paying users	2,800	8,102	11,229	13,267	15,293
SUM marketing expenses	£365,600.00	£770,000.00	£918,000.00	£1,097,040.00	£1,283,328.00
Customer gained during the period	2,800	5,334	6,090	6,969	7,983
Monthly churn rate	33.81%	33.81%	33.81%	33.81%	33.81%
Customer lifetime monthly (in months)	2.96	2.96	2.96	2.96	2.96
Yearly churn rate	74.66%	74.66%	74.66%	74.66%	74.66%
Customer lifetime yearly (in months)	16.07	16.07	16.07	16.07	16.07

Customer lifetime (monthly) is calculated by $1/\text{Monthly churn rate}$.

Customer lifetime (yearly) is calculated by $(1/\text{yearly churn rate}) * 12$.

Figure 28 - Customer Acquisition Cost

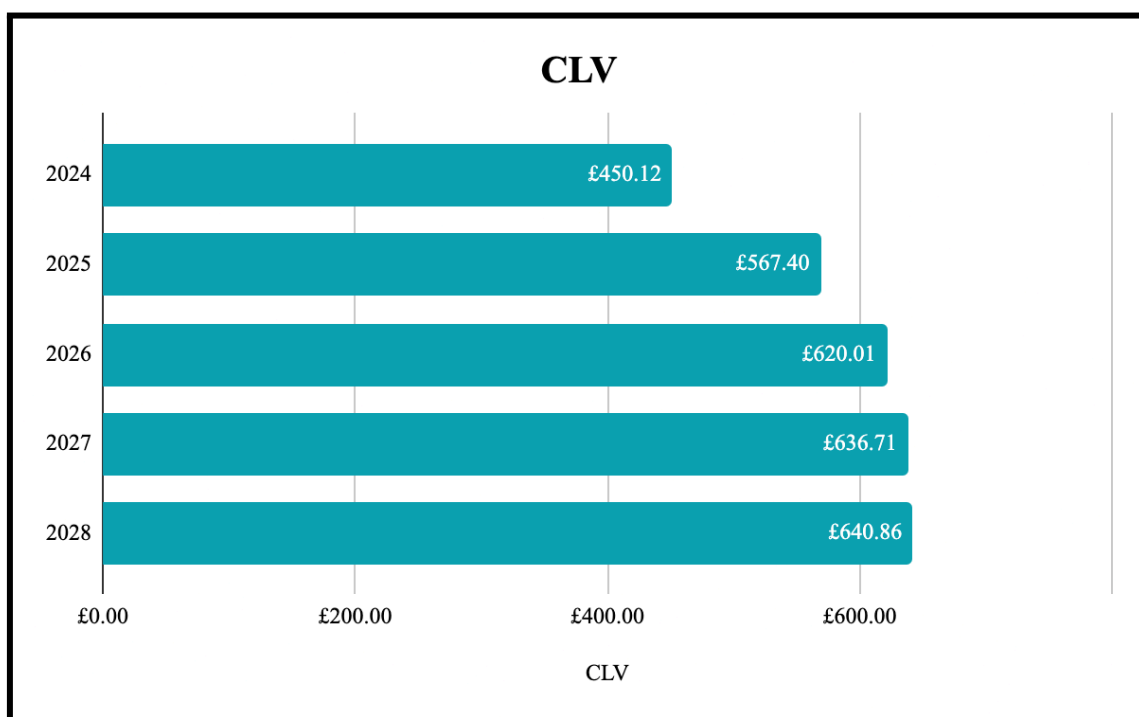


$$\text{CAC} = \text{SUM marketing expenses} / \text{Customer gained on the same period}$$

The customer acquisition cost metric essentially shows how much it costs us to convert a user to a paid customer.

Our focus on efficient marketing and customer acquisition strategies is projected to keep our CAC manageable. Starting at £130.57 in 2024, we expect a slight increase to £144.36 in 2025 as we invest in scaling our customer base. By 2026, our CAC is projected to be £150.74, reflecting ongoing investment in marketing. In 2027, we forecast a further increase to £157.42, with a slight rise to £160.76 by 2028, indicating a stable and efficient acquisition strategy.

Figure 29 - Customer Lifetime Value



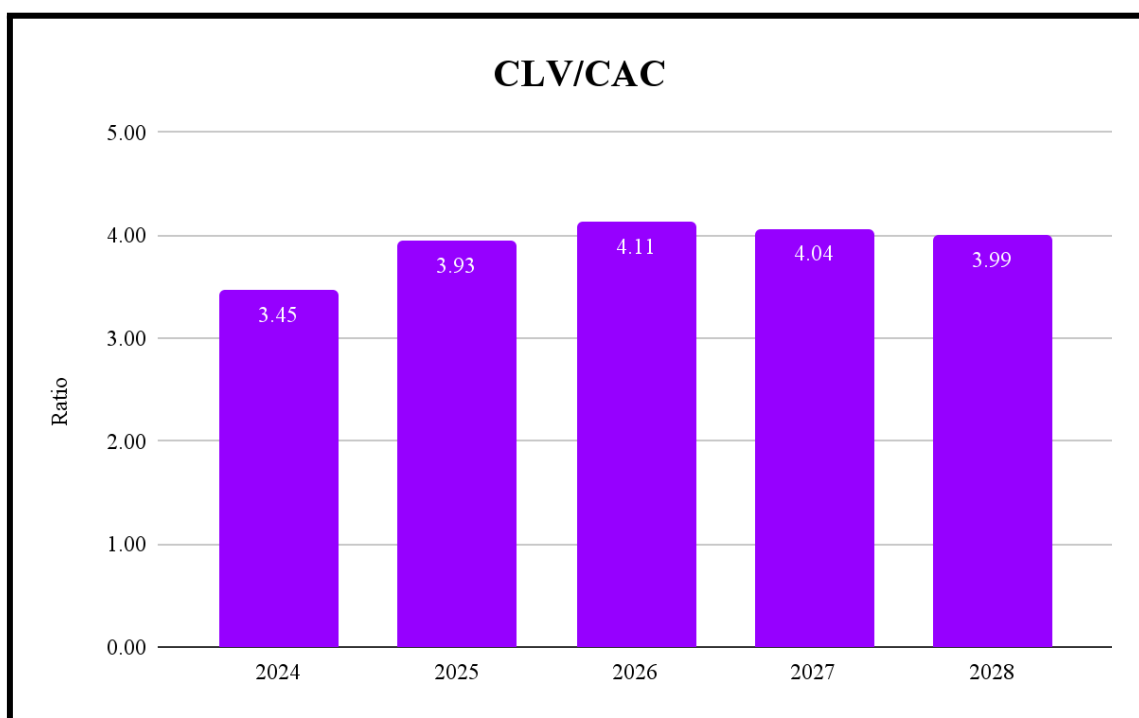
$$\text{CLV} = \text{ARPU} \times \text{customer lifespan}$$

“Customer lifetime value (CLV) is one of the key stats to track as part of a customer experience program. CLV is a measurement of how valuable a customer is to our company, not just on a purchase-by-purchase basis but across the whole relationship.”

(What Is Customer Lifetime Value (CLV) ? | Qualtrics, 2023)

Our efforts to enhance customer value are projected to yield significant returns. Starting with a CLV of £450.12 in 2024, we expect to increase this to £567.40 by 2025 as we improve our customer engagement and retention strategies. By 2026, our CLV is projected to reach £620.01, reflecting the growing value of our customer base. In 2027, we forecast a further increase to £636.71, with a slight rise to £640.86 by 2028, indicating strong and sustained customer loyalty.

Figure 30 - Customer Lifetime Value to customer acquisition cost ratio



This crucial metric, reflecting the efficiency of our customer acquisition relative to their lifetime value, is projected to start at 3.45 in 2024, indicating solid returns on our acquisition costs. By 2025, we expect this ratio to improve to 3.93, demonstrating increasing efficiency. In 2026, our ratio is projected to reach 4.11, showcasing excellent returns. By 2027, we forecast a slight decrease to 4.04, with a stable ratio of 3.99 by 2028, reflecting consistent and efficient customer acquisition strategies.

To explain differently, in 2024 for example, for every **£1** spent on our customer, we expect to gain **£3.45**.

Typically, a “ 3:1 ratio is a common benchmark for a "good" ratio.”(*LTV:CAC Ratio [2023 Guide] | Benchmarks, Formula, Tactics | Daasity*, n.d.), by 2026 we expect a 4:1 ratio which promises an excellent return.

To sum up everything that has been stated so far, the comprehensive analysis of our financial ratios and key performance indicators (KPIs) illustrate a strong and promising picture of our economic health and growth trajectory.

Our Current Ratio projections indicate strong liquidity, ensuring we can meet short-term obligations while strategically investing in growth. The Solvency Ratios, both the Guarantee Ratio and Financial Autonomy Ratio, show a clear trend of increasing financial independence and stability, highlighting our ability to cover long-term obligations and reduce reliance on external financing.

Our ROA reflects our efficient use of assets and equity to generate profits. It shows steady improvement, effective asset management and return on equity, ensuring sustainable profitability.

Projected KPIs further reinforce our positive outlook. We demonstrate exponential revenue growth with a steady increase in Monthly Recurring Revenue (MRR). Our Customer Acquisition Cost (CAC) remains stable, indicating efficient customer acquisition strategies. The significant increase in Customer Lifetime Value (CLV) shows our success in understanding our customers by enhancing engagement and retention. Moreover, our CLV to CAC Ratio reflects excellent returns on our acquisition costs, proving the efficiency and sustainability of our growth model.

As a final word, these financial metrics and KPIs highlight our strategic focus on financial stability, efficient growth, and maximising customer value. We are confident that our solid financial foundation and growth trajectory will drive long-term value for our investors, positioning us among the leaders in the fitness-technology space.

7. Formal and Legal Aspects of the Project

7.1 Choice of Legal Form and Justification of Election

I would opt for a Limited Liability Company, more specifically a Private Limited Company (Ltd) in the UK as this legal form “prevents individuals from being liable for the company’s financial losses and debt liabilities. In the event of legal action or business failure, liability is assumed by the company rather than its constituent partners or shareholders”(What Is a Limited Liability Company (LLC) | Square Glossary, n.d.).

There is many reasons on why I should choose this regime:

First of all, this regime will protect all the shareholders from the business’s debts and liabilities.(What Is a Limited Liability Company (LLC) | Square Glossary, n.d.).

Also for tax saving purposes, corporation taxes are usually less than personal income tax if I opted for a sole trader legal form for example. (What Is a Limited Liability Company (LLC) | Square Glossary, n.d.).

“LLCs can attract more outside investment from venture capitalists, thus giving you access to capital that might not otherwise be available” (Team, 2023).

Filing for an LLC is also often faster than other legal forms. There are no requirements of filing out Articles of Incorporation and paying yearly fees (Team, 2023).

7.2 Shareholders Agreement

The fundamental aim of this Agreement is to make a clear establishment of the way PerfectForm will be run and managed. The provisions are to pay its executives and its future dividends, reinvest, to encourage the continuous technological improvement of the company. PerfectForm is under no publicly traded stock regarding the distribution of dividends. Therefore allowing for flexibility in the reinvestment of earnings to further develop our proprietary technology and expand our market presence.

One of the most significant challenges, though, is reinvesting these profits back carefully into strategies that will place PerfectForm in a competitive edge within the fast-changing and fast pace fitness technology environment. For instance, the money may be reinvested back into the R&D of better motion-tracking algorithms or expanding our line of fitness apps. This will not only improve our product offering but also improve efficiency and customer satisfaction toward ensuring long-term growth and shareholder value.

7.3 Administrative Formalities

As our startup will be operating in the UK, we'll have to comply and obey with the UK's administrative laws such as the following (Yurovskiy & Yurovskiy, 2024):

01. Choose a unique company name: The name must not be the same as another registered company and should indicate 'limited' status.
02. Appoint directors and company officers: A private company must have at least one director who is normally also the company secretary.
03. Provide a company address: This official address will be displayed on the public register.
04. Draft articles of association: This document outlines the company rules and constitution.
05. Complete the relevant forms: Form IN01 and the memorandum of association must be filled out.
06. Pay fees: Registration fees are around £12 to £100 depending on the method, and annual maintenance fees also apply.
07. Register with Companies House: The forms and details are sent to Companies House to be legally incorporated.
08. Inform HM Revenues & Customs: New companies must register for corporation tax and VAT if applicable.

7.4 Accounting, Tax and Labour Obligations

Accounting Obligations

Statutory accounts: Preparation and filing of the annual statutory accounts with Companies House within nine months following the financial year. An abridged set of accounts may be filed where the company qualifies for this (Accounts and legal, 2023).

Corporation tax return: An obligation to submit a Corporation tax return to HM Revenue & Customs (HMRC) annually. The return contains a summarised form of the entity's financial performance during an accounting period, adjustments of the allowable tax reliefs and tax credits, followed by a final tax calculation (Accounts and legal, 2023).

Annual return: Under Companies House regulation, every registered UK company is required to make a return giving information regarding the shareholders, directors, and company secretary once every year (Accounts and legal, 2023).

Accounting records: Keep financial and accounting records in the correct form, which shall include particulars about all sums of money received and expended by the company and matters concerning its assets and liabilities, stock, and transactions involving purchase and sales of goods (Government Digital Service, 2014).

Tax obligations

Corporation tax: Pay Corporation Tax on profits from doing business as a limited company, any foreign company with a UK branch or office, a club, co-operative, or other unincorporated association (*Corporation Tax*, 2014).

Value Added Tax (VAT): I would need to register if our turnover of taxable supplies/services goes over a certain amount (currently £85,000), or “you may register voluntarily, even if it is lower than this threshold (Green, n.d.).

Employer's National Insurance contributions: Deduct the Employer's National Insurance contributions from our employees' pay” (Green, n.d.).

Labour obligations

Employment law: Comply with UK employment law, including minimum wage requirements, working hours, and employee rights (Government Digital Service, 2014).

Pension auto-enrolment: Enrol eligible employees into a workplace pension scheme (Government Digital Service, 2014).

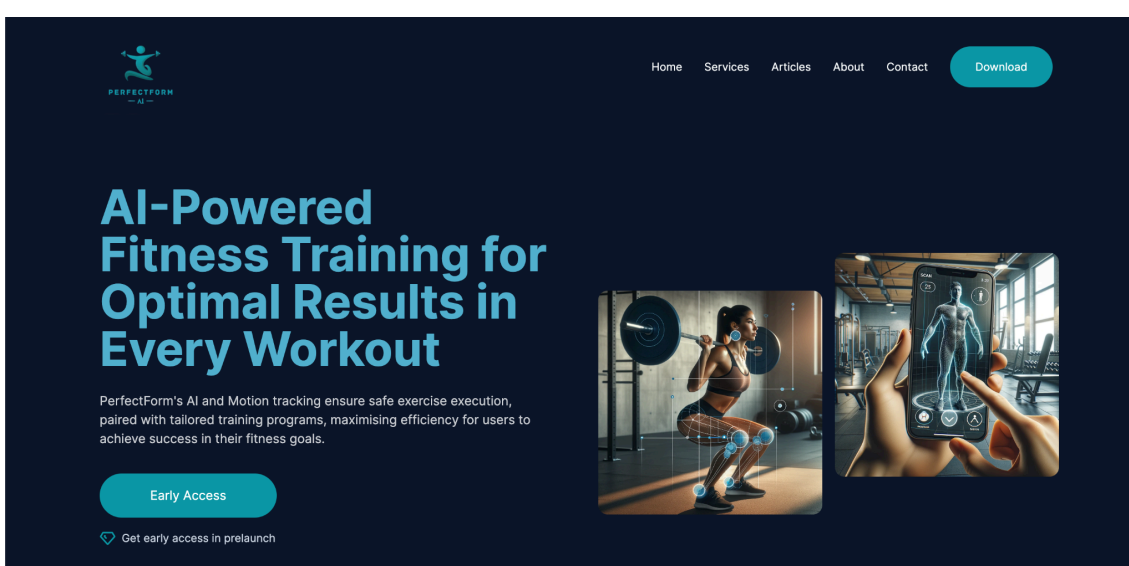
8. Corporate Image

8.1 Web Page

Here is the Hero section of my landing page. It explains directly to the user what my app is about and grabs their attention by embedding a CTA (Call to Action) on getting the “Early access” version of our App.

We emphasise our 3 key features to showcase how we stand out from our competitors. As a last section before the footer, we add a last CTA to download our app.

Figure 31 - Landing page of PerfectForm



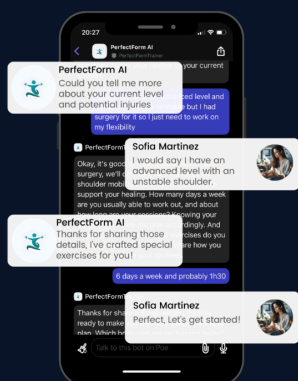
Try Our App now!

Get access to our 5-day trial by signing up on our App.



AI-Powered Fitness Training for Optimal Results in Every Workout

PerfectForm's AI and Motion tracking ensure safe exercise execution, paired with tailored training programs, maximizing efficiency for users to achieve success in their fitness goals



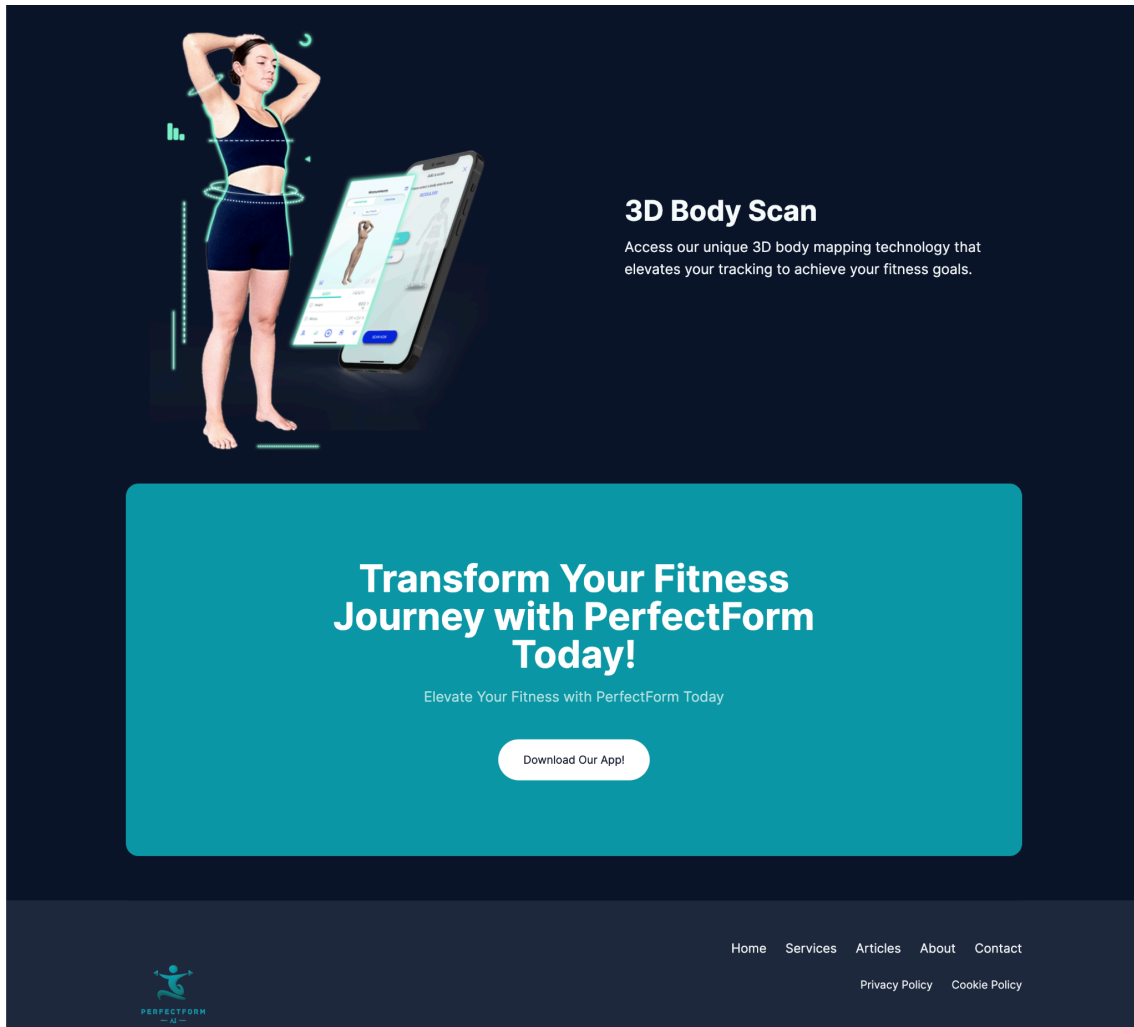
Personal AI trainer Chatbot

Access the most powerful AI trainer through our unique chatbot within our app that will craft you a personalised workout routine based on your fitness goals, past injuries, availability and much more!

PerfectForm Record™

Elevate your workouts with our advanced technology that counts repetitions, tracks movements, and minimises injury risks. This system records and analyses your performance to ensure proper form and safe, effective exercise.





Note. Landing page made using website builder tool (*Lindo - the Easiest Way to Build a Website*, n.d.). Own Elaboration.

8.2 Branding

PerfectForm isn't just an app but an idea of developing a 360-degree complete fitness experience, centred around the user's safety, personalised use, and technological innovation. Powered by AI and Motion Tracking, PerfectForm leverages best practices from other industries to bring the leading fitness app experience designed from the very first exposure to our marketing to reinforce brand core values and vision at every touchpoint. From our discovery to daily use within the app and its community.

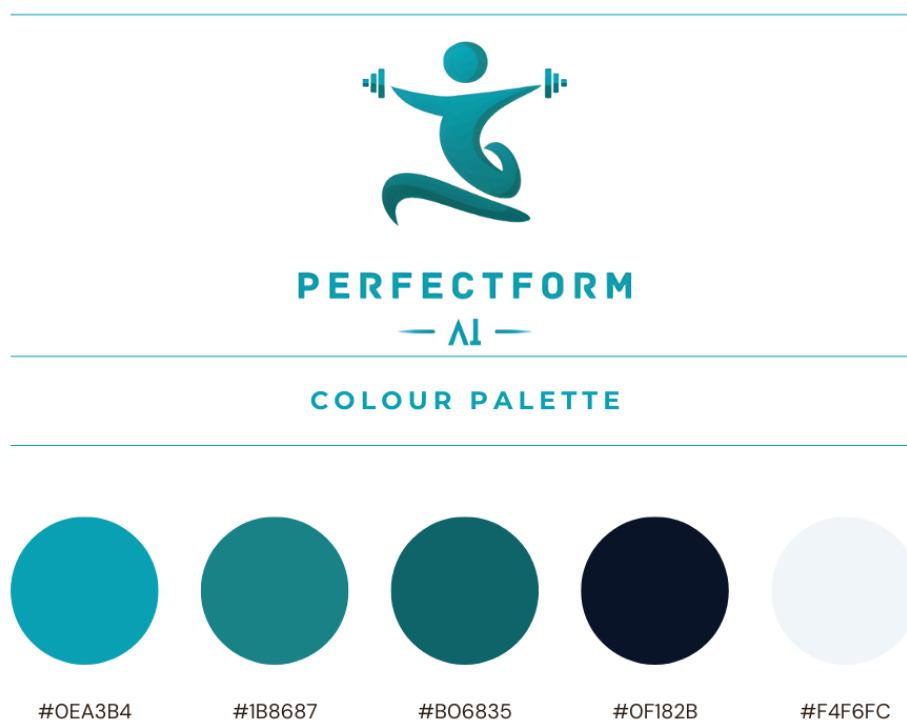
Our Core Identity

PerfectForm is a high-tech, user-centric fitness training tool that ensures safety and effectiveness. With its AI and motion tracking, it is not just a leading tool amongst competitors; in line with future-facing innovative fitness solutions.

PerfectForm takes to the safety aspect as an integral part of its core identity, infused in every line of operation and, by the same way, communication to the users. This places our brand as a caring and reliable partner to its users in the quest for fitness to achieve seamless injury-free workouts and general wellbeing.

PerfectForm excels in the power to bring out super personal coaching experiences, totally customised as per the exact needs and goals of the users. More importantly, such personal touch reasserts the brand promise of personal empowerment, coupled with the application of high-tech solutions in ensuring adaptability for customers at different fitness levels and with various preferences.

Figure 32 - PerfectForm's colour palette



Note. Own elaboration.

8.3 Quality Management

At PerfectForm, quality is paramount when it comes to our AI and motion tracking services.

We will make our priority that the motion tracking and AI functionalities provide a consistent experience across various devices and platforms (iOS, Android). This includes adaptive design and testing on different screen sizes and operating system versions.

We will ensure that all data, especially sensitive user health data, is handled in compliance with GDPR. This includes data storage, encrypting sensitive data.

The AI personal trainer will have to go through intensive testing and refinement to avoid any unwanted actions or hallucinations (a complete made up output in LLM). We will ensure regular audits and updates of AI models to reflect diverse datasets and scenarios.

Listening to our community is essential to keep our service high quality for the demanding market. That is why we will implement systems for collecting user feedback on application performance and usability, which can be leveraged to enhance the product continuously.

8.4 Social Responsibility

As for my Corporate social responsibility, I chose to follow the triple layered Business model canva from Joyce and Paquin (2016), which is a tool to design more sustainable business models.

“The Triple Layered Business Model Canvas is a tool for exploring sustainability oriented business model innovation. It extends the original business model canvas by adding two layers: an **environmental** layer based on a lifecycle perspective and a **social** layer based on a stakeholder perspective.”

The **Social** layer aims to enhance the original model by adopting a stakeholder perspective that recognizes the reciprocal interactions between the organisation and all its stakeholders, including both internal ones like employees and external ones like customers. The goal is for the company to use this insight to discover innovative methods to generate social value within its community.

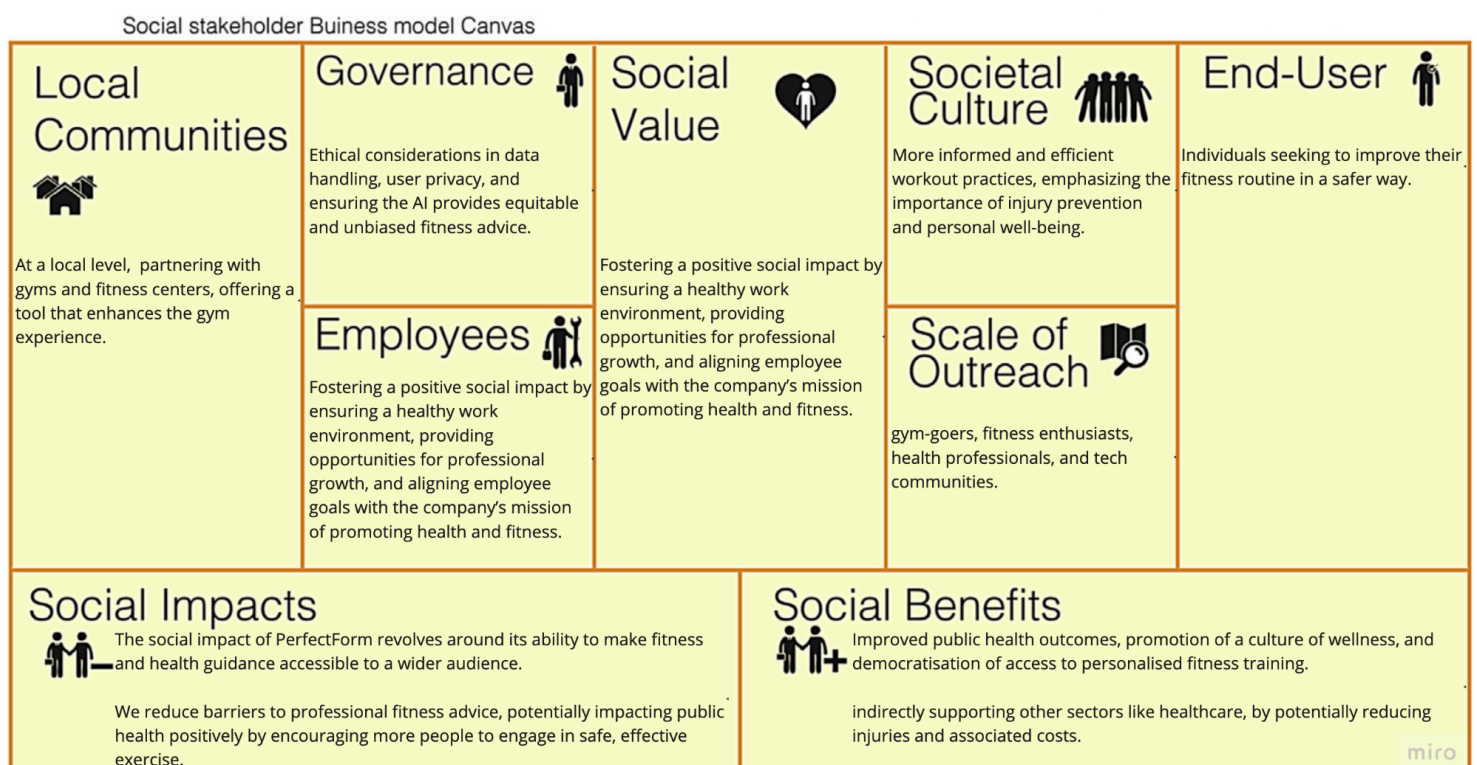
Social Value: This component emphasises how much an organisation’s mission is dedicated to benefiting its stakeholders and the broader society. For businesses focused on sustainability, generating social value is a crucial aspect of their mission.

Social Culture: This factor acknowledges the capacity of organisations to affect society at large. Recognizing that companies cannot succeed in a failing society, this dimension explores the ways in which a company can have a positive societal influence.

Scale of Scope: This refers to the extent and depth of the relationships an organisation cultivates with its stakeholders over time. It encompasses forming long-term, inclusive relationships and broadening impact across diverse cultures and geographical areas.

Latest Users: This point revisits the final consumer of the product or service. Here, the aim is to assess how the organisation’s value proposition meets the needs of these end consumers and contributes to enhancing their quality of life.

Figure 33 - PerfectForm’s social layer



Note. Empty Social layer canva retrieved from the Triple layered business model canva research paper (Joyce & Paquin, 2016), and completed by myself.

The **Environmental** layer focuses on conducting an assessment to identify the positive and negative effects that the company's business model has on the environment. The aim is to use the findings from this assessment to foster ideas within the organisation that will amplify the benefits and minimise the environmental impact.

Functional Value: This aspect assesses how effectively a product or service meets environmental needs, similar to a life-cycle analysis of a product. Analysing the functional value should help clarify the environmental impact of the company's offerings and serve as a foundation for exploring new, alternative business models.

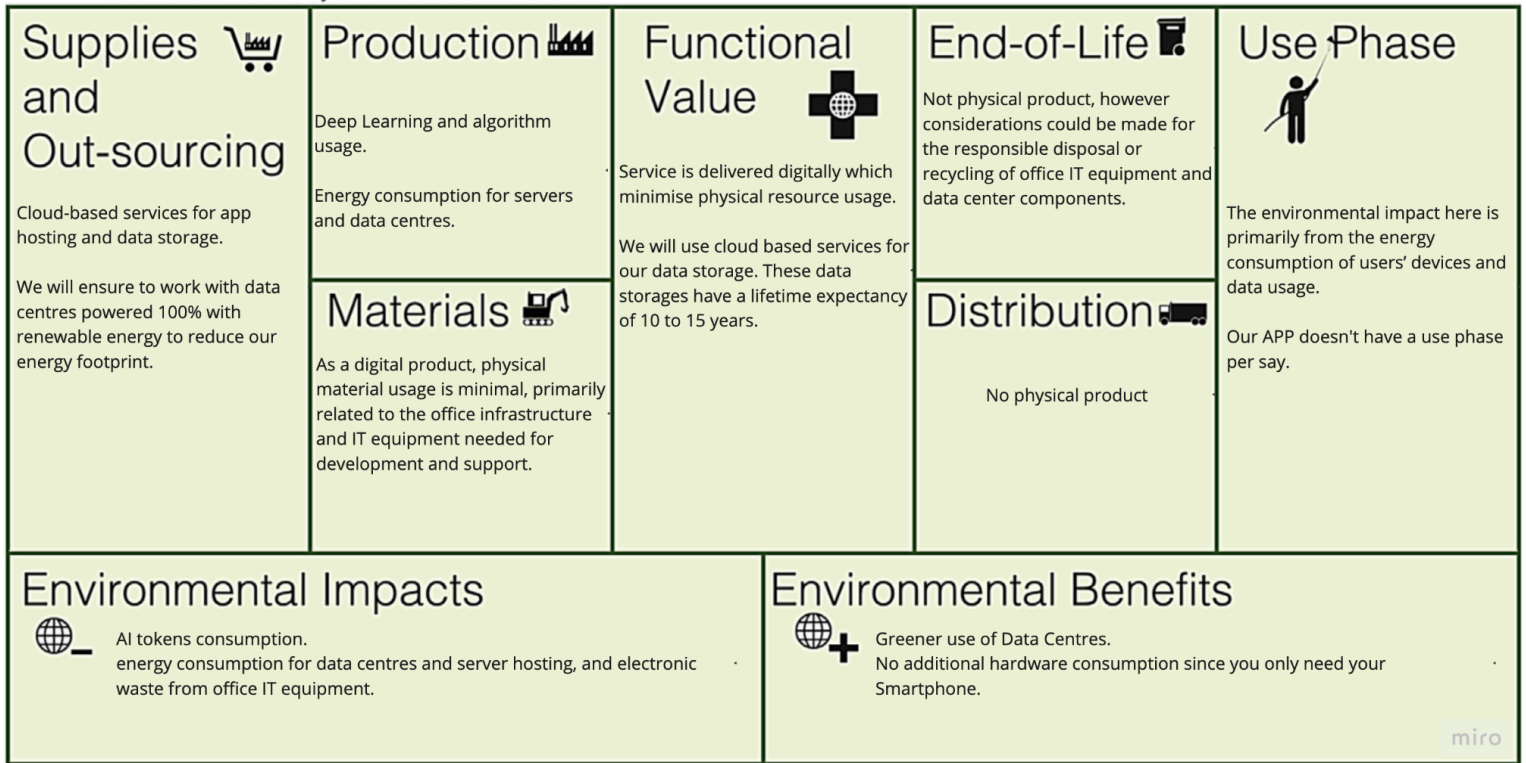
Distribution: As in the traditional model, distribution involves the transportation of goods. From an environmental standpoint, it is crucial to understand the mix of transportation modes used, the distances travelled, and the weight of the goods being transported. Additionally, the environmental impact of product packaging is also a key consideration in this area.

Use Phase: This segment focuses on the impact of consumer usage on the functional value of the organisation, its products, or services. It involves analysing how products are maintained or repaired and the energy requirements of consumers for using and enjoying these products.

End-of-Life: This phase addresses the point at which the consumer stops deriving functional value from a product or service. It's important to consider factors related to the reuse, repair, recycling, incineration, or responsible disposal of products. This block aims to provide the company with an environmental protection perspective to properly manage its products at the end of their lifecycle.

Figure 34 - PerfectForm's environmental layer

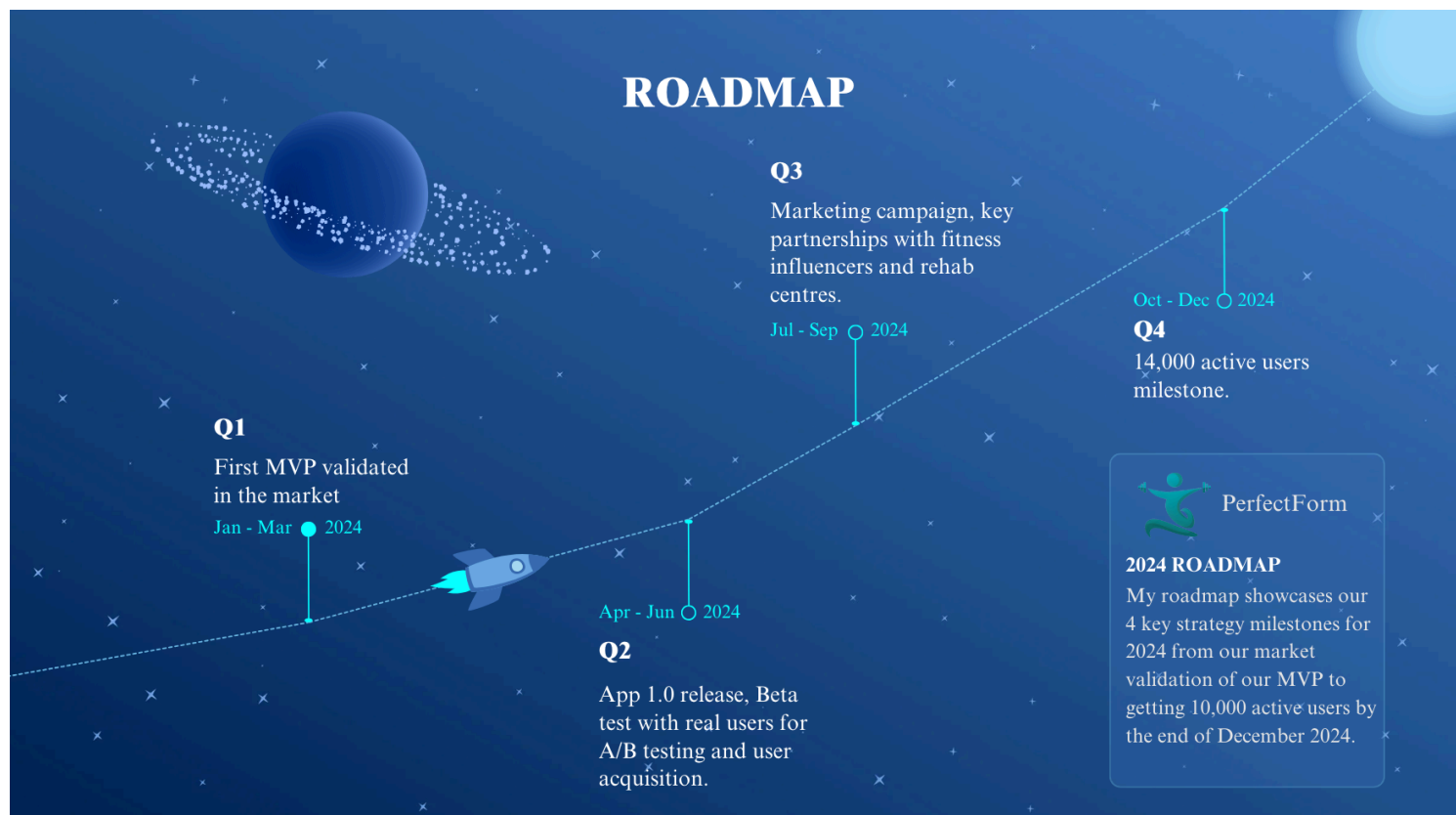
Environmental Life Cycle Business model Canvas



Note. Empty Environmental layer canva retrieved from the Triple layered business model canva research paper (Joyce & Paquin, 2016), and completed by myself.

8.5 Roadmap

Figure 35 - PerfectForm's roadmap



Note. This roadmap shows the main milestones/goals that we intend to achieve and that will show the success of our startup. Own elaboration

2024 Roadmap Phases and Metrics

Pre-launch (January - May 2024)

Brand Building and Online Presence

Pre-Launch Marketing Campaigns

Metrics:

Social Media Engagement Metrics:

These will help you check the effectiveness of your social media strategies. For instance, the number of likes, shares, and comments; growth or decline in followers, and so on speak about the way the audience is relating to the kind of content served to them.

High engagement shows strong interest in the brand and helps to build a loyal community, which is actually one of the key things possible in brand building and awareness.

Pre-Launch Marketing Campaign Performance:

We will analyse pre-launch marketing campaign performance, including email open rates, click-through rates, and conversion rates, to determine how well our promotional strategies are working. This will help outline what works best to gather potential users and partners before the official launch.

Partnership Commitment:

Closely related to the previous metric, stakeholder endorsement, personal or signed upon in a partnership, is a key component in making sure there is a support network strong enough on which our launch rests. Partnerships will boost our credibility, offer extra resources, and help reach a bigger audience.

Launch (June 2024)

Launch Event and Promotions

Intensive Marketing Campaign

Metrics:

Launch Event Success:

This is key to analysing the success of our event launch by attaining coverage, attendance, and buzz on social media. It will allow us to assess the impacts and effectiveness of our event towards the excited attitude and awareness of the respondents regarding our application.

App downloads and installations:

Successful launching can also be gauged by the number of downloads and installations of an app. The higher the number, the greater the interest in our app.

Media and Influencer Coverage:

Media mentions and influencer endorsements would boost our visibility and credibility. Keeping track of such metrics will help us understand the reach and impact of our launch efforts in the public domain.

Active Users :

This number will basically determine how good our app is at retaining users. This metric reflects value obtained by the user continuing to use our app post-download and works as a signal of how strong the impact of our strategies really is.

Customer Acquisition Cost (CAC):

This calculation will allow us to know how much we are paying to acquire that extra customer through marketing. Keeping this cost low and buying voluminous customers ensures that we are managing our marketing budgets efficiently and are on the path to profitability.

Post-launch (July - December 2024)

Engagement and Growth

Review and Optimise

Metrics:

Monthly Recurring Revenue (MRR):

MRR is a very important metric for an understanding of our stream of revenues. It allows us to follow the financial health and capabilities of growth for our business, showing consistent income derived from either subscriptions or other regularly repeating payments.

User Acquisition:

We will track user growth to measure the effectiveness of acquisition and retention strategies over time. This way, we will be able to understand how well the app is scaling while constantly attracting a new set of users.

Marketing Efficacy:

We will better our strategy by learning how effective our continuous marketing actions are in terms of ROI, conversion rates, and user responses. Effective marketing ensures continued growth and user engagement.

Customer Lifetime Value (CLV):

CLV offers a great insight into how much one customer will generate revenue. This figure is very important so we may get a good understanding of our total customer profitability and, better still, adjust our business model in a way that reaps the best benefit over time when compared in ratio to our CAC.

8.6 SMART goal

“SMART goals were outlined back in 1981 by George T. Doran, who noticed that many business goals were too diffuse to have a meaningful impact. SMART goals are well-defined goals that follow a specific structure to support the goal-setter’s achievement. Each element helps set you up for success, following the letters in the SMART goals acronym. The “SMART” in a SMART goal stands for Specific, Measurable, Achievable, Relevant, and Timely.” (*Everything You Need to Know About SMART Goals*, 2024)

Here is the SMART goal we’ve set up for the year 2024 that aligns with our roadmap:

Specific: Successfully launched PerfectForm AI app to the Canadian market.

Measurable: Acquire 14,000 active users by the end of the first year of the launch.

Achievable: This represents 0.5% of fitness app users in the UK.

Relevant: We stay aligned with our overarching mission of PerfectForm to enhance gym-goers' experience through technology.

Timely: Reach this target user by the end of 2024.

9. Conclusion

The culmination of the PerfectForm project has provided valuable insights into the application of emerging AI technologies within the fitness industry. This final degree project aimed to achieve two primary objectives: understanding the potential of AI and its subsets through a practical business case and leveraging online AI tools intelligently, particularly for startups operating with limited budgets.

Throughout this project, we explored the transformative capabilities of AI, specifically machine learning and motion tracking, in enhancing workout efficiency and safety. PerfectForm's innovative approach, integrating real-time form correction and personalised training programs, demonstrated how AI can be harnessed to address common fitness challenges such as improper form and injury prevention. The project's success underscores the significant role AI can play in personalising user experiences and optimising fitness outcomes.

Moreover, this project highlighted the strategic use of online AI tools, proving that even startups with constrained resources can effectively implement advanced technologies. By adopting a freemium model and focusing on scalable solutions, PerfectForm showcases how intelligent leveraging of AI tools can cause cost-effective yet high-impact innovations. This approach not only facilitates accessibility and affordability for users but also ensures sustainable business growth.

In conclusion, PerfectForm exemplifies the integration of AI in fitness technology, setting new standards for workout safety and personalization. The insights gained from this project provide a roadmap for other startups aiming to navigate the dynamic landscape of AI applications, emphasising the importance of innovation, user-centric design, and strategic resource management in achieving long-term success.

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13. Annexes

Annexe 1 - Loan amortisation table

Amortisation Table of the loan				
Month	Remaining principal	Interest payment	Principal repayment	New remaining principal
1	£427,600.00	£2,949.21	£5,777.68	£421,822.32
2	£421,822.32	£2,909.36	£5,817.53	£416,004.79
3	£416,004.79	£2,869.24	£5,857.65	£410,147.14
4	£410,147.14	£2,828.84	£5,898.05	£404,249.08
5	£404,249.08	£2,788.16	£5,938.73	£398,310.35
6	£398,310.35	£2,747.20	£5,979.69	£392,330.65
7	£392,330.65	£2,705.95	£6,020.94	£386,309.72
8	£386,309.72	£2,664.43	£6,062.46	£380,247.25
9	£380,247.25	£2,622.61	£6,104.28	£374,142.97
10	£374,142.97	£2,580.51	£6,146.38	£367,996.59
11	£367,996.59	£2,538.12	£6,188.77	£361,807.82
12	£361,807.82	£2,495.43	£6,231.46	£355,576.37
13	£355,576.37	£2,452.45	£6,274.44	£349,301.93
14	£349,301.93	£2,409.18	£6,317.71	£342,984.22
15	£342,984.22	£2,365.61	£6,361.29	£336,622.93
16	£336,622.93	£2,321.73	£6,405.16	£330,217.77
17	£330,217.77	£2,277.55	£6,449.34	£323,768.43
18	£323,768.43	£2,233.07	£6,493.82	£317,274.62
19	£317,274.62	£2,188.28	£6,538.61	£310,736.01
20	£310,736.01	£2,143.19	£6,583.71	£304,152.30
21	£304,152.30	£2,097.78	£6,629.11	£297,523.19
22	£297,523.19	£2,052.05	£6,674.84	£290,848.35
23	£290,848.35	£2,006.02	£6,720.87	£284,127.48
24	£284,127.48	£1,959.66	£6,767.23	£277,360.25
25	£277,360.25	£1,912.99	£6,813.90	£270,546.35
26	£270,546.35	£1,865.99	£6,860.90	£263,685.45
27	£263,685.45	£1,818.67	£6,908.22	£256,777.23
28	£256,777.23	£1,771.02	£6,955.87	£249,821.36
29	£249,821.36	£1,723.05	£7,003.84	£242,817.52
30	£242,817.52	£1,674.74	£7,052.15	£235,765.37
31	£235,765.37	£1,626.10	£7,100.79	£228,664.59
32	£228,664.59	£1,577.13	£7,149.76	£221,514.82
33	£221,514.82	£1,527.82	£7,199.08	£214,315.75
34	£214,315.75	£1,478.16	£7,248.73	£207,067.02
35	£207,067.02	£1,428.17	£7,298.72	£199,768.30
36	£199,768.30	£1,377.83	£7,349.06	£192,419.23

37	£192,419.23	£1,327.14	£7,399.75	£185,019.48
38	£185,019.48	£1,276.10	£7,450.79	£177,568.69
39	£177,568.69	£1,224.71	£7,502.18	£170,066.52
40	£170,066.52	£1,172.97	£7,553.92	£162,512.60
41	£162,512.60	£1,120.87	£7,606.02	£154,906.58
42	£154,906.58	£1,068.41	£7,658.48	£147,248.10
43	£147,248.10	£1,015.59	£7,711.30	£139,536.79
44	£139,536.79	£962.40	£7,764.49	£131,772.30
45	£131,772.30	£908.85	£7,818.04	£123,954.26
46	£123,954.26	£854.93	£7,871.96	£116,082.30
47	£116,082.30	£800.63	£7,926.26	£108,156.05
48	£108,156.05	£745.97	£7,980.92	£100,175.12
49	£100,175.12	£690.92	£8,035.97	£92,139.15
50	£92,139.15	£635.50	£8,091.40	£84,047.75
51	£84,047.75	£579.69	£8,147.20	£75,900.55
52	£75,900.55	£523.50	£8,203.40	£67,697.16
53	£67,697.16	£466.92	£8,259.97	£59,437.18
54	£59,437.18	£409.95	£8,316.95	£51,120.24
55	£51,120.24	£352.58	£8,374.31	£42,745.93
56	£42,745.93	£294.82	£8,432.07	£34,313.86
57	£34,313.86	£236.67	£8,490.22	£25,823.64
58	£25,823.64	£178.11	£8,548.78	£17,274.86
59	£17,274.86	£119.15	£8,607.74	£8,667.11
60	£8,667.11	£59.78	£8,667.11	£0.00

Annexe 2 - MRR Calculation

MRR Calculation breakdown by months								
2024								
	New Users	Monthly subscription revenue	Yearly subscription revenue	Normalised yearly revenue	Total Revenue	ARPU	MRR	Average annually MRR
June	388	£2,806.83	£64,800.00	£9,257.14	£12,063.97	£31.09	£12,063.97	£18,999.15
July	392	£5,397.75	£65,280.00	£9,325.71	£14,723.46	£37.56	£14,723.46	
August	396	£7,724.78	£66,000.00	£9,428.57	£17,153.35	£43.32	£17,153.35	
September	400	£9,859.89	£66,720.00	£9,531.43	£19,391.32	£48.48	£19,391.32	
October	404	£11,803.08	£67,440.00	£9,634.29	£21,437.37	£53.06	£21,437.37	
November	408	£13,554.35	£67,920.00	£9,702.86	£23,257.21	£57.00	£23,257.21	
December	412	£15,161.68	£68,640.00	£9,805.71	£24,967.39	£60.60	£24,967.39	
2025								
January	417	£16,649.06	£69,600.00	£5,800.00	£22,449.06	£53.83	£22,449.06	£29,979.89
February	422	£18,040.48	£70,320.00	£5,860.00	£23,900.48	£56.64	£23,900.48	
March	427	£19,287.96	£71,280.00	£5,940.00	£25,227.96	£59.08	£25,227.96	
April	432	£20,463.47	£72,000.00	£6,000.00	£26,463.47	£61.26	£26,463.47	
May	437	£21,543.02	£72,960.00	£6,080.00	£27,623.02	£63.21	£27,623.02	
June	537	£22,574.59	£96,480.00	£8,040.00	£30,614.59	£57.01	£30,614.59	
July	543	£23,510.20	£97,680.00	£8,140.00	£31,650.20	£58.29	£31,650.20	
August	549	£24,397.83	£98,640.00	£8,220.00	£32,617.83	£59.41	£32,617.83	
September	555	£25,213.49	£99,840.00	£8,320.00	£33,533.49	£60.42	£33,533.49	
October	561	£26,005.16	£100,800.00	£8,400.00	£34,405.16	£61.33	£34,405.16	
November	567	£26,748.85	£102,000.00	£8,500.00	£35,248.85	£62.17	£35,248.85	
December	573	£27,444.56	£102,960.00	£8,580.00	£36,024.56	£62.87	£36,024.56	
2026								
January	579	£28,092.29	£103,920.00	£8,660.00	£36,752.29	£63.48	£36,752.29	£40,552.32
February	585	£28,740.02	£105,120.00	£8,760.00	£37,500.02	£64.10	£37,500.02	
March	591	£29,339.77	£106,080.00	£8,840.00	£38,179.77	£64.60	£38,179.77	
April	598	£29,915.53	£107,520.00	£8,960.00	£38,875.53	£65.01	£38,875.53	
May	605	£30,467.30	£108,720.00	£9,060.00	£39,527.30	£65.33	£39,527.30	

June	622	£31,019.07	£112,320.00	£9,360.00	£40,379.07	£64.92	£40,379.07		
July	629	£31,546.85	£113,520.00	£9,460.00	£41,006.85	£65.19	£41,006.85		
August	637	£32,074.63	£115,200.00	£9,600.00	£41,674.63	£65.42	£41,674.63		
September	644	£32,578.42	£116,400.00	£9,700.00	£42,278.42	£65.65	£42,278.42		
October	651	£33,082.21	£117,600.00	£9,800.00	£42,882.21	£65.87	£42,882.21		
November	658	£33,586.00	£118,800.00	£9,900.00	£43,486.00	£66.09	£43,486.00		
December	666	£34,065.80	£120,240.00	£10,020.00	£44,085.80	£66.19	£44,085.80		
2027									
January	673	£34,545.60	£121,680.00	£10,140.00	£44,685.60	£66.40	£44,685.60		
February	681	£35,049.39	£123,120.00	£10,260.00	£45,309.39	£66.53	£45,309.39		
March	688	£35,505.20	£124,320.00	£10,360.00	£45,865.20	£66.66	£45,865.20		
April	695	£35,985.00	£125,520.00	£10,460.00	£46,445.00	£66.83	£46,445.00		
May	703	£36,440.81	£126,960.00	£10,580.00	£47,020.81	£66.89	£47,020.81		
June	710	£36,896.62	£128,160.00	£10,680.00	£47,576.62	£67.01	£47,576.62	£47,920.19	
July	719	£37,376.42	£129,840.00	£10,820.00	£48,196.42	£67.03	£48,196.42		
August	727	£37,832.23	£131,280.00	£10,940.00	£48,772.23	£67.09	£48,772.23		
September	736	£38,288.04	£132,960.00	£11,080.00	£49,368.04	£67.08	£49,368.04		
October	745	£38,767.84	£134,640.00	£11,220.00	£49,987.84	£67.10	£49,987.84		
November	754	£39,247.64	£136,320.00	£11,360.00	£50,607.64	£67.12	£50,607.64		
December	762	£39,727.44	£137,760.00	£11,480.00	£51,207.44	£67.20	£51,207.44		
2028									
January	771	£40,207.24	£139,440.00	£11,620.00	£51,827.24	£67.22	£51,827.24		
February	779	£40,687.04	£140,640.00	£11,720.00	£52,407.04	£67.27	£52,407.04		
March	788	£41,166.84	£142,320.00	£11,860.00	£53,026.84	£67.29	£53,026.84		
April	796	£41,646.64	£143,760.00	£11,980.00	£53,626.64	£67.37	£53,626.64		
May	806	£42,126.44	£145,680.00	£12,140.00	£54,266.44	£67.33	£54,266.44		
June	814	£42,630.23	£147,120.00	£12,260.00	£54,890.23	£67.43	£54,890.23	£55,253.45	
July	824	£43,110.03	£148,800.00	£12,400.00	£55,510.03	£67.37	£55,510.03		
August	834	£43,613.82	£150,720.00	£12,560.00	£56,173.82	£67.35	£56,173.82		
September	843	£44,141.60	£152,400.00	£12,700.00	£56,841.60	£67.43	£56,841.60		
October	853	£44,645.39	£154,080.00	£12,840.00	£57,485.39	£67.39	£57,485.39		
November	864	£45,149.18	£156,240.00	£13,020.00	£58,169.18	£67.33	£58,169.18		
December	873	£45,676.96	£157,680.00	£13,140.00	£58,816.96	£67.37	£58,816.96		

Annexe 3 - Income statement

Income Statement December, 31st					
Category	2024	2025	2026	2027	2028
Net sales					
Subscription	£ 533,108.36	£ 1,326,438.67	£ 1,719,947.89	£ 1,998,222.23	£ 2,293,681.41
Total net sales	£ 533,108.36	£ 1,326,438.67	£ 1,719,947.89	£ 1,998,222.23	£ 2,293,681.41
CoGS					
Google Cloud	£ (72,396.81)	£ (72,396.81)	£ (72,396.81)	£ (72,396.81)	£ (72,396.81)
Domain name	£ (10.34)	£ (10.34)	£ (10.34)	£ (10.34)	£ (10.34)
Firebase	£ (7,821.23)	£ (14,203.38)	£ (17,400.53)	£ (19,614.63)	£ (21,768.09)
AI chatbot	£ (4,552.50)	£ (18,649.00)	£ (25,688.50)	£ (30,563.50)	£ (35,305.00)
3D body scan	£ (22,762.50)	£ (93,245.00)	£ (128,442.50)	£ (152,817.50)	£ (176,525.00)
Software Dev salary	£ (125,180.00)	£ (128,935.40)	£ (265,606.92)	£ (273,575.13)	£ (281,782.39)
Computer	£ (4,000.00)	-	-	-	-
Stripe fees	£ (19,241.72)	£ (48,826.21)	£ (63,506.66)	£ (73,875.46)	£ (84,827.59)
Total CoGS	£ (255,965.11)	£ (376,266.15)	£ (573,052.27)	£ (622,853.37)	£ (672,615.23)
Gross Margin	£ 277,143.25	£ 950,172.52	£ 1,146,895.62	£ 1,375,368.86	£ 1,621,066.18
% Gross Margin	52%	72%	67%	69%	71%
Operating Expense					
Marketing					
Influencers	£ (278,400.00)	£ (552,000.00)	£ (656,400.00)	£ (790,800.00)	£ (931,200.00)
Screen Advertising	£ (67,200.00)	£ (192,000.00)	£ (230,400.00)	£ (268,800.00)	£ (307,200.00)
Social media advertising	£ (20,000.00)	£ (26,000.00)	£ (31,200.00)	£ (37,440.00)	£ (44,928.00)
Salaries					
CMO salary	£ (39,830.00)	£ (41,024.90)	£ (42,255.65)	£ (43,523.32)	£ (44,829.02)
CEO salary	£ (33,600.00)	£ (34,608.00)	£ (35,646.24)	£ (36,715.63)	£ (37,817.10)
Offices					
Office space	£ (16,380.00)	£ (16,380.00)	£ (16,380.00)	£ (16,380.00)	£ (1,365.00)
Total OpEx	£ (455,410.00)	£ (862,012.90)	£ (1,012,281.89)	£ (1,193,658.94)	£ (1,367,339.11)
GROSS PROFITS					
(EBITDA)	£ (178,266.75)	£ 88,159.62	£ 134,613.73	£ 181,709.91	£ 253,727.07
Depreciation Computer	£ (680.00)	£ (680.00)	£ (680.00)	£ (680.00)	£ (680.00)
Amortisation of intangible assets	£ (38,785.51)	£ (38,785.51)	£ (38,785.51)	£ (38,785.51)	£ (38,785.51)
EARNINGS BEFORE INTEREST AND TAXES (E.B.I.T)					
(E.B.I.T)	£ (217,732.25)	£ 48,694.11	£ 95,148.23	£ 142,244.41	£ 214,261.56
Financial expenses	£ (32,699.05)	£ (26,506.57)	£ (19,781.67)	£ (12,478.57)	£ (4,547.57)
EARNINGS BEFORE TAX (E.B.T)					
(E.B.T)	£ (250,431.31)	£ 22,187.54	£ 75,366.55	£ 129,765.83	£ 209,714.00
Income taxes	£ -	£ (4,437.51)	£ (15,073.31)	£ (25,953.17)	£ (41,942.80)
NET EARNINGS	£ (250,431.31)	£ 17,750.03	£ 60,293.24	£ 103,812.67	£ 167,771.20

Annexe 4 - Stripe fees

Stripe Transaction fees

2024	Cumulated Monthly Subscription Users	New Yearly Subscription Users	Monthly subscription fees	Yearly subscription fees	Total fees
January	0	0	£0.00	£0.00	£0.00
February	0	0	£0.00	£0.00	£0.00
March	0	0	£0.00	£0.00	£0.00
April	0	0	£0.00	£0.00	£0.00
May	0	0	£0.00	£0.00	£0.00
June	117	270	£123.16	£2,267.19	£2,390.35
July	225	272	£236.85	£2,283.98	£2,520.83
August	322	275	£338.96	£2,309.18	£2,648.13
September	411	278	£432.64	£2,334.37	£2,767.01
October	492	281	£517.91	£2,359.56	£2,877.47
November	565	283	£594.75	£2,376.35	£2,971.10
December	632	286	£665.28	£2,401.54	£3,066.82
Total transaction fees					£19,241.72

Stripe Transaction fees

2025	Cumulated Monthly Subscription Users	New Yearly Subscription Users	Monthly subscription fees	Yearly subscription fees	Total fees
January	694	290	£730.55	£2,435.13	£3,165.68
February	752	293	£791.60	£2,460.32	£3,251.92
March	804	297	£846.34	£2,493.91	£3,340.25

April	853	300	£897.92	£2,519.10	£3,417.02
May	898	304	£945.29	£2,552.69	£3,497.98
June	941	402	£990.55	£3,375.59	£4,366.15
July	980	407	£1,031.61	£3,417.58	£4,449.19
August	1,017	411	£1,070.56	£3,451.17	£4,521.72
September	1,051	416	£1,106.35	£3,493.15	£4,599.50
October	1,084	420	£1,141.08	£3,526.74	£4,667.82
November	1,115	425	£1,173.72	£3,568.73	£4,742.44
December	1,144	429	£1,204.24	£3,602.31	£4,806.56
Total transaction fees					£48,826.21

Stripe Transaction fees

2026	Cumulated Monthly Subscription Users	New Yearly Subscription Users	Monthly subscription fees	Yearly subscription fees	Total fees
January	1,171	433	£1,232.66	£3,635.90	£4,868.57
February	1,198	438	£1,261.09	£3,677.89	£4,938.97
March	1,223	442	£1,287.40	£3,711.47	£4,998.88
April	1,247	448	£1,312.67	£3,761.86	£5,074.52
May	1,270	453	£1,336.88	£3,803.84	£5,140.72
June	1,293	468	£1,361.09	£3,929.80	£5,290.89
July	1,315	473	£1,384.25	£3,971.78	£5,356.03
August	1,337	480	£1,407.41	£4,030.56	£5,437.97
September	1,358	485	£1,429.51	£4,072.55	£5,502.06
October	1,379	490	£1,451.62	£4,114.53	£5,566.15
November	1,400	495	£1,473.72	£4,156.52	£5,630.24
December	1,420	501	£1,494.78	£4,206.90	£5,701.67
Total transaction fees					£63,506.66

Stripe Transaction fees

2027	Cumulated Monthly Subscription Users	New Yearly Subscription Users	Monthly subscription fees	Yearly subscription fees	Total fees
January	1,440	507	£1,515.83	£4,257.28	£5,773.11
February	1,461	513	£1,537.94	£4,307.66	£5,845.60
March	1,480	518	£1,557.94	£4,349.65	£5,907.58
April	1,500	523	£1,578.99	£4,391.63	£5,970.62
May	1,519	529	£1,598.99	£4,442.01	£6,041.00
June	1,538	534	£1,618.99	£4,484.00	£6,102.99
July	1,558	541	£1,640.04	£4,542.78	£6,182.82
August	1,577	547	£1,660.04	£4,593.16	£6,253.20
September	1,596	554	£1,680.05	£4,651.94	£6,331.98
October	1,616	561	£1,701.10	£4,710.72	£6,411.82
November	1,636	568	£1,722.15	£4,769.50	£6,491.65
December	1,656	574	£1,743.20	£4,819.88	£6,563.08
Total transaction fees					£73,875.46

Stripe Transaction fees





2028	Cumulated Monthly Subscription Users	New Yearly Subscription Users	Monthly subscription fees	Yearly subscription fees	Total fees
January	1,676	581	£1,764.26	£4,878.66	£6,642.92
February	1,696	586	£1,785.31	£4,920.64	£6,705.95
March	1,716	593	£1,806.36	£4,979.42	£6,785.79
















April	1,736	599	£1,827.42	£5,029.80	£6,857.22
May	1,756	607	£1,848.47	£5,096.98	£6,945.45
June	1,777	613	£1,870.58	£5,147.36	£7,017.94
July	1,797	620	£1,891.63	£5,206.14	£7,097.77
August	1,818	628	£1,913.74	£5,273.32	£7,187.05
September	1,840	635	£1,936.89	£5,332.10	£7,268.99
October	1,861	642	£1,959.00	£5,390.87	£7,349.87
November	1,882	651	£1,981.11	£5,466.45	£7,447.55
December	1,904	657	£2,004.26	£5,516.83	£7,521.09
Total transaction fees					£84,827.59

Annexe 5

Blaze plan calculator

Use our pricing calculator to get an estimate for your monthly costs on the Blaze plan. All unit costs are billed at the rate of the underlying [Google Cloud infrastructure](#).

Reset to free usage			Projects are billed monthly
 Cloud Firestore	GiB stored	1 GiB about 20 M chat messages	No cost
	Document writes	600,000 writes number of times data is written	No cost
	Document reads	1,500,000 reads number of times data is read	No cost
	Document deletes	600,000 deletes number of times data is deleted	No cost
Don't forget to factor in Egress costs! See Google Cloud pricing			
 Realtime Database	GB stored	20 GB about 400 M chat messages	\$95
	GB transferred	100 GB about 2,000 M chat messages	\$90
 Authentication	Phone Auth - All regions	Billed per SMS sent See current rates	-
	Identity Platform Pricing Monthly active users (excluding SAML/OIDC)	50,000 MAUs Active users per month	No cost
	Monthly active users - SAML/OIDC	50 MAUs Active users per month	No cost
 Cloud Storage	GB stored	500 GB about 250,000 high-res photos	\$12.87
	GB transferred	500 GB about 250,000 high-res photos	\$56.40
	Operations (uploads & downloads)	10,000,000+ operations about 1,000,000 uploads & 9,000,000 downloads	\$6.79+

 Cloud Functions	Invocations  GB-seconds  CPU-seconds  Networking (egress)  Cloud Build minutes  Container storage 	2,000,000 invocations number of times a function is invoked 400,000 GB-seconds time with 1 GB of memory provisioned 200,000 CPU-seconds time with 1 GHz CPU provisioned 5 GB outbound data transfer 1,000+ min minutes used to build Cloud Functions 10,000+ MB storage amount for function containers	No cost No cost ? No cost ? No cost \$2.64+ \$0.26+
 Hosting	GB stored  GB transferred 	100+ GB about 50,000 pages of static content 100 GB about 50,000 pages of static content	\$2.34+ \$13.50
 Test Lab	Virtual Device Testing  Physical Device Testing 	6 hours per day about 72 tests 120 minutes per day about 24 tests	\$150 \$225
 Firebase ML	Cloud Vision API calls 	350,000 calls/month	\$524
			Estimated monthly cost \$1,178

Notes:

I kept all the data needed to the basic level which is free and more than enough for the creation of the app, except the following:

1. Hosting
 - a. I increased the GB stored and transferred as we will use many of them through the app's different features.
2. Test Lab
 - a. This feature is paramount as we intend to undergo intensive A/B testing of our app to ensure everything works as expected.

3. Firestore ML

- a. Since our app resolves especially in using Machine Learning capabilities with our PerfectForm Record feature, I calculated the amount of API calls derived by the target **premium** user we aim to achieve.
 - i. From this number, knowing that The ideal number of exercises per workout session is 3-4 exercises, assuming a traditional 4 sets of 12 reps per exercise, we arrive at **16 sets** per workout.
 - ii. The average workout per week ranges from 3 to 5. Given that I assume **3 sessions** per week
 - iii. So far we have 16 sets x 3 session = **48 sets** potentially recorded per weeks.
 - iv. To get to monthly usage, we arrive at 48 sets x 4 weeks = **192 sets/month/user**
 - v. So we have 192 sets being 192 potential recorded sets per month, thus 192 potential API calls.

Reference:

Firestore pricing. (n.d.). Firestore. Retrieved on May 14th 2024, from

<https://firebase.google.com/pricing#blaze-calculator>

Annexe 6 - Google Cloud Cost breakdown

Name	Quantity	Region of the server	Service_id	SKU	Total_price, USD	Total_price, GBP
Label Detection Operations	10000	global	C08E-37B9-80D3	C869-A3DF-2D6D	\$13.50	£10.67
Object Localization Operations	100000	global	C08E-37B9-80D3	3436-E958-4E83	\$222.75	£175.97
Vertex AI: Online/Batch Prediction A2 Instance Core running in Netherlands	14400	europa-west4	C7E2-9256-1C43	391A-A9BC-5134	\$576.32	£455.29
Vertex AI: Online/Batch Prediction A2 Instance Ram running in Netherlands	204000	europa-west4	C7E2-9256-1C43	1FBC-67E7-13D5	\$1,019.03	£805.03
Training - NVIDIA A100 80GB in Netherlands	0	europa-west4	C7E2-9256-1C43	87FA-D11F-133F	\$0.00	£0.00
Vertex AI: Online/Batch Prediction A2 Instance Core running in Americas	840	us-central1	C7E2-9256-1C43	F86F-168E-2FB6	\$30.54	£24.12
Vertex AI: Online/Batch Prediction A2 Instance Ram running in Americas	5950	us-central1	C7E2-9256-1C43	2DBC-2378-4503	\$28.99	£22.90
Vertex AI: Online/Batch Prediction Nvidia Tesla A100 GPU running in Americas	70	us-central1	C7E2-9256-1C43	86DD-470A-DBD2	\$236.19	£186.59
Cloud SQL for MySQL: Zonal - vCPU in London	1460	europa-west2	9662-B51E-5089	F0CF-9545-2AEC	\$72.42	£57.21
Cloud SQL for MySQL: Zonal - RAM in London	5475	europa-west2	9662-B51E-5089	BA84-2E60-2039	\$45.99	£36.33
Cloud SQL for MySQL: Zonal - Standard storage in London	73000	europa-west2	9662-B51E-5089	8AA6-0F3F-991C	\$19.00	£15.01
Cloud Firestore Read Ops London	60833333.33	europa-west2	F17B-412E-CB64	8E5D-1539-BEDD	\$23.13	£18.27
Cloud Firestore Entity Writes London	9125000	europa-west2	F17B-412E-CB64	4B80-89D7-E774	\$9.96	£7.87
Cloud Firestore Entity Deletes London	0	europa-west2	F17B-412E-CB64	191C-2DBA-B484	\$0.00	£0.00
Cloud Firestore Storage London	50	europa-west2	F17B-412E-CB64	05C9-D9B3-A288	\$5.73	£4.53
Frontend Instances London	100	europa-west2	F17B-412E-CB64	D069-C0E4-7C4E	\$4,328.90	£3,419.83
External IP Charge on a Standard VM	50	global	6F81-5844-456A	C054-7F72-A02E	\$178.85	£141.29
External IP Charge on a Spot Preemptible VM	0	global	6F81-5844-456A	4AF8-7C1F-39C4	\$0.00	£0.00
Static Ip Charge in London	20	europa-west2	6F81-5844-456A	AE76-605A-25B8	\$175.19	£138.40
Network CDN North America Intra-Region Cache Fill	500	global	6F81-5844-456A	AAEB-2D19-B7E5	\$5.00	£3.95
Networking Cloud CDN Traffic Cache Data Transfer to Europe	4	global	E505-1604-58F8	2A8D-245C-0E0B	\$0.32	£0.25
Networking Cloud Cdn Cache Lookups	30000000	global	E505-1604-58F8	4762-E550-B5D2	\$22.50	£17.78
Networking Cloud Armor Requests Regional	0	global	E505-1604-58F8	928E-CF60-E186	\$0.00	£0.00
Networking Cloud Armor Requests	10000000	global	E505-1604-58F8	1A87-DEB9-C4BE	\$7.50	£5.93
Networking Cloud Armor Policy	5	global	E505-1604-58F8	4B13-E64F-4A2B	\$25.00	£19.75
Networking Cloud Armor Rule	10	global	E505-1604-58F8	A321-89BD-F5BC	\$10.00	£7.90
Log Storage cost	100	global	5490-F7B7-8DF6	143F-A1B0-E0BE	\$21.57	£17.04
Log Retention cost	200	global	5490-F7B7-8DF6	F4AE-5A52-ACE3	\$1.86	£1.47
CPU Allocation Time (2nd Gen) in europa-west2	12024000000	europa-west2	29E7-DA93-CA13	CCB6-0B74-2074	\$404.01	£319.17
Memory Allocation Time (2nd Gen) in europa-west2	7680000000000	europa-west2	29E7-DA93-CA13	89AF-3B9D-D104	\$26.25	£20.74
Invocations (2nd Gen)	50000000	global	29E7-DA93-CA13	92DF-0F0E-630F	\$19.20	£15.17
Standard Storage London	5000	europa-west2	95FF-2EF5-5EA1	BB55-3E5A-405C	\$107.10	£84.61
Total monthly cost					\$7,636.79	£6,033.07
Total yearly cost					\$91,641.54	£72,396.81

Conversion rate	
USD	\$1
GBP	£0.79

The estimated fees provided by Google Cloud Pricing Calculator are for discussion purposes only and are not binding on either you or Google. Your actual fees may be higher or lower than the estimate.