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B.Sc in Enterprise Computing

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1. Organization / Motivation / Executive summary:

1.1 Overview

"GymNow" is primarily an online gym comparison and online booking service. Furthermore, we facilitate a platform where the customer can communicate easily with gyms, personal trainers and fitness instructors. "GymNow" is a multi-sided platform that addresses some of the most significant issues in the industry today, such as the ever-increasing inflation on gym membership prices and the small to medium-sized gyms attempting to stay competitive with the bigger franchise gyms especially in cities. These are just some of the key issues we believe GymNow's service addresses, by providing a service where gyms can display their facility on our platform free of charge, likewise gym customers have the opportunity to compare and contrast facilities and classes on our website and are no longer restricted to one-gym one-membership service, this is discussed further in section 2. Small to medium-sized businesses who choose to utilize our booking service in conjunction with their business will benefit from greater control over their operations and improved management of their limited resources, which can be essential to their business being successful. Our goal with GymNow is to provide a new model for gym memberships and increase gym customers' options when exercising. We also want to support local small gyms and provide a platform for them to recover and thrive. We feel there is a major gap in the fitness market for our application and there are major values GymNow can provide for both gym customers and owners.

1.2 The Problem

The fitness industry is one of the fastest-growing industries in the world, meaning the market will only grow over the coming years, with increasing customers and increasing competition which will only heighten the current problems within the fitness industry (The 2020 IHRSA Global Report, 2020). Firstly small to medium-sized businesses and self-employed instructors are finding it increasingly difficult to generate revenue and compete with the large franchise gyms, especially in towns or cities in Ireland, where these businesses have far greater resources and pull on new customers. At the moment the first point of contact for gym customers is online or through social media platforms or websites, the increased demand for content in this area by customers means that many of the industry leaders have a greater presence on social media and are more than adept at captivating the attention and business of these customers. This leads to the second major problem, in this case from the customer point of view, as they aren't aware of these non-franchised gyms and fitness instructors the franchised gym become overcrowded leading to inaccessibility to equipment and lessons resulting in frustration and customers compromising decreasing the overall quality of service provided to the customer. This has become an unjustified status quo within the fitness industry. This was magnified by the current guidelines in gyms in Ireland with regards to booking a certain time and appointment to attend a gym, many gym customers are being left highly disappointed as they are unable to utilize their gym membership due to the gym

being constantly booked up days in advance, causing many to alter work/lifestyle around gym availability, which is a problem GymNow aim's to completely eliminate.

1.3 The Solution

"GymNow" addresses a number of the above-mentioned issues in the case of gym owners and gym customers. We offer a platform where gym owners can display their gym and available training slots on our website to be viewed by potential gym customers without any advertising costs involved. By integrating our online booking system into their everyday operations, business owners can reduce their marketing expenditure, leaving increased capital that can be invested into other areas of the business for improvement and growth. We offer gym customers variety and choice in allowing them to contrast and compare facilities and classes either online or in-person on our platform to find the gym or class that best suits their current needs, for a one-time fee without any lengthy sign-up documentation. Additionally "GymNow" customers can choose to avail of our go-anywhere monthly gym membership, which allows them to utilize any of the displayed gyms on our platform so they are no longer restricted to one single gym or facility.

1.4 Highlights & Keys to Success:

GymNow business concept is based upon the needs and wants of its two types of users. On one hand, we have active gym customers and fitness enthusiasts who are restricted to single locations to go to their gym's. These locations restrict customers' ability to travel and exercise regularly. They need to sacrifice and work around their gym's location because they can't simply exercise where they want when they want at a place and time that best suits them. Having an app that allows users to search where they are or where they are going to be for a class or gym will allow them to maintain their fitness goals and entice recurring usage. Offering a membership that can replace their current one location membership with over 100 and giving these customers constant choice's and releasing these restraints is of great value to customers. Gym customers will be more attracted to pay for a membership as can be seen by 76% of respondents in a survey set out to 100 gym customers(Digital fitness comes into its own with breathtaking possibilities, 2021).

For the Local Unfranchised Gym owners, PT and fitness instructors they need to locate, advertise and acquire new customers so they can compete with competitors. These local businesses don't have the marketing teams that the franchised business have and find it difficult to reach out to new non-existing customers who are continually being swept up to franchised gyms. Many of these gym's don't have their own websites and social media following to advertise their business to a wide range of potential customers and the same can be observed for personal trainers and fitness instructors. Our business will provide a platform that will substitute for the lack of these features in return for a commission of any sales that occur on our platform.

1.5 Financial Highlights

From a €283,000 investment GymNow is plans to increase its revenue within two years by 17.6% Within the Irish market, followed by appropriate re-investments made in year 2 to enter the UK market laid out in section 2.5 Financial Requirements, GymNow sets to create a 34.4% increase in its Net Profits

within 3 years. Figures are taken from section 2.6 3 year Financial Forecast with a quick breakdown displayed below:

	Investment	Revenue	Expenses	Net Profit	Balance
Year 1	283,000	1,008,950	1,047,286	-38,336	244,664
Year 2	0	5,229,500	4,419,887	808,613	1,303,026
Year 3	0	52,012,421	20,959,845	31,052,576	34,3195,27

Figure 1: Financial Figures

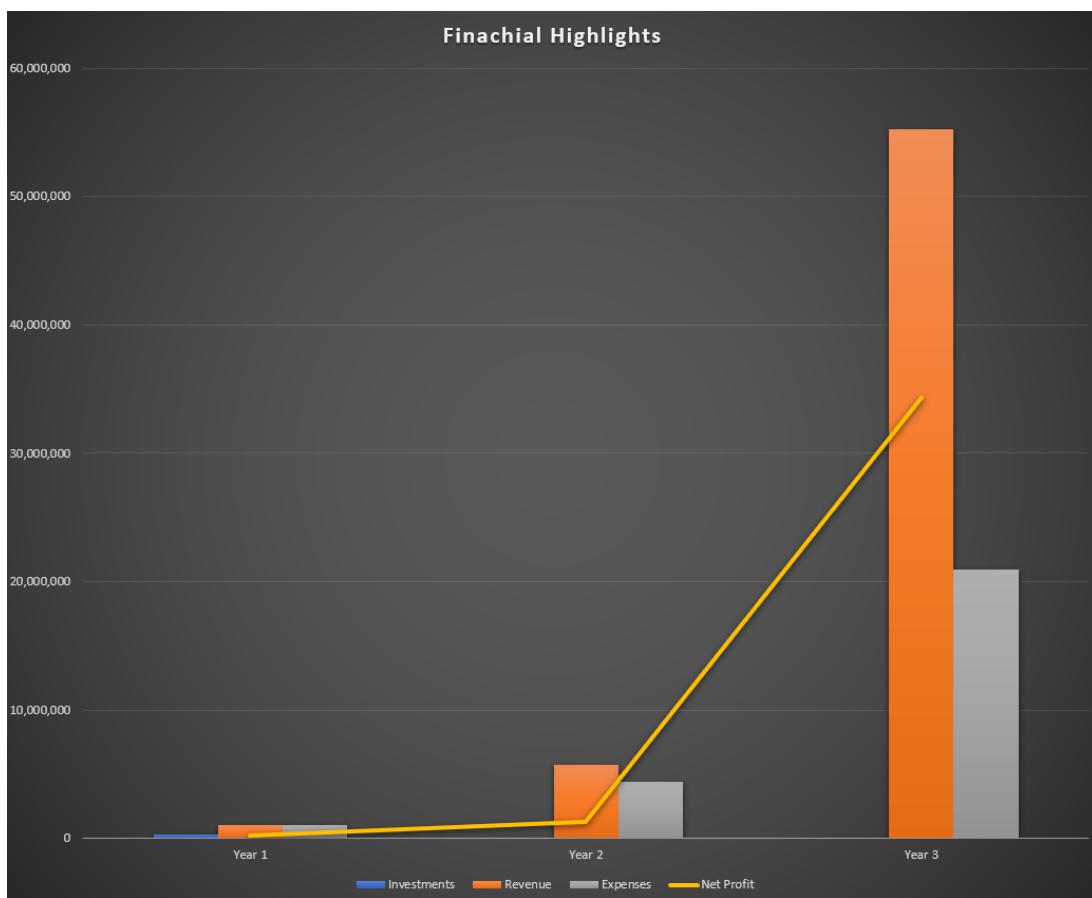


Figure 2 : Financial Highlights Graph

1.6 Organisational Structure:

- *General Manager (Adrian Lackey)*: Oversee the overall day-to-day operations focusing on the technical development of the business along with designing strategies to achieve business goals and maintain budgets and optimize expenses.
- *Co-Founder (Luke Attride & Adrian Lackey)*: Along with Adrian, Luke will assist with the day to day operation with a more focus of the marketing and sales departments of the business
- *SEO & Marketing Manager (Luke Attride)*: Charged with implementing and managing the business marketing strategy, as well as assuring the quality and content of website traffic

- *Sales Manager (Jason Byrne)*: In charge of the sales team and growing the network of gyms and customers on our platform.
 - *Sales Representative (Luke Attride)*: One of the co-founders will be a member of the Sales Team and assist in ensuring the value proposition is delivered to customers.
- *Finance/HR/Admin Manager (Deirbhile Smith)*: Deirbhile will manage the business's finances along with overseeing the recruitment of new employees and running the administration tasks.
- *UX Team Lead (Niall Brady)*: Our Senior Frontend developer will lead our UX team in their day to day design and development
 - *Junior Frontend Software Engineer (Aaron Turner, Jasmine Florentine)*: Our junior frontend developers will be responsible for continually innovating and integrating our UI with high-quality software.
- *Development Team Lead (Shane Fagan)*: Our Senior Developer will be fronting the backend development of our app and website, introducing high-quality software and leading his team in day-to-day development.
 - *Junior Backend Software Engineer (Harshit Loharuka)*: Our junior backend developer will be responsible for assisting in the development of our app and website producing reliable and valuable code.
- *Senior QA Software Tester (Tony Fay)*: Prior to our business beginning to generate revenue we will hire a senior software tester to the Dev team to improve the reliability and efficiency of the website.

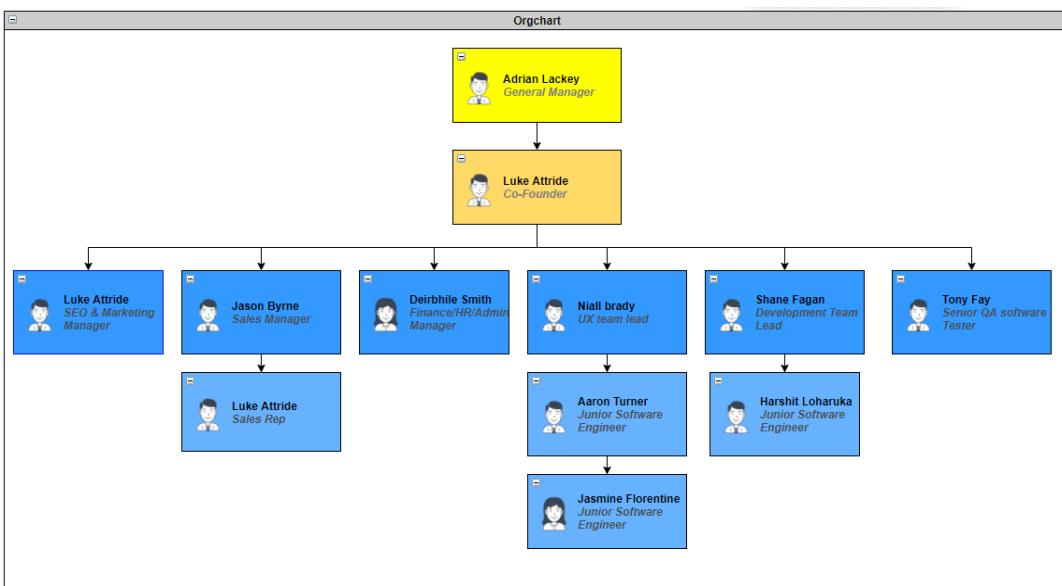


Figure 3: GymNow Organisational Structure

1.7 Team CV's

Luke CV - Appendix A

Adrian CV - Appendix B

1.8 Workload & Time Description:

Team Blog:

<https://docs.google.com/document/d/1GQR88amotdYn5STO2x9z-jeBHLdDMQBZrmCKhixlubQ/edit>

Gantt Chart: Link in Appendix C

	Task	Assigned To ①	Start	Due	Durati... ①	Predecessors
1	GymNow Project Proposed Timeline					
2	☐ Idea Proposal	Adrian + Luke	05/11/20	25/11/20	15d	
3	Proposal Document	Adrian	05/11/20	18/11/20	10d	
4	Proposal Presentation	Luke	19/11/20	25/11/20	5d	
5	☐ Mid Term Delivery		10/12/20	18/01/21	22d	
6	☐ Research commercial potential	Adrian + Luke	10/12/20	14/12/20	3d	
7	Discover potential Competitors	Luke	10/12/20	11/12/20	2d	
8	Research market size	Adrian	10/12/20	14/12/20	3d	
9	Analyze Viability of the proposed solution	Adrian + Luke	15/12/20	24/12/20	8d	8
10	Complete overall project timeline & work plan	Adrian	08/01/21	13/01/21	4d	
11	Develop Initial functional specification	Adrian + Luke	07/01/21	18/01/21	8d	
12	☐ Final Documentation	Adrian + Luke	21/01/21	13/04/21	58d	
13	☐ Develop Technical Prototype	Adrian + Luke	21/01/21	30/03/21	48d	
14	Analysis of technology	Adrian	21/01/21	25/01/21	3d	
15	Requirements gathering	Luke	21/01/21	27/01/21	5d	
16	Design MVP	Adrian + Luke	26/01/21	05/02/21	9d	14
17	☐ Devolp MVP UI	Adrian + Luke	08/02/21	30/03/21	36d	16
18	Frontend devolpment	Luke	08/02/21	30/03/21	36d	
19	Backend Devolpment	Adrian	08/02/21	30/03/21	36d	
20	☐ Business Case Documentation	Adrian + Luke	28/01/21	13/04/21	53d	
21	☐ Revise Buisness Model and case	Adrian + Luke	28/01/21	02/02/21	4d	
22	Update and Restructure BMC + VPC	Adrian + Luke	28/01/21	02/02/21	4d	
23	☐ Gather and anaylise background reasearch	Adrian + Luke	03/02/21	02/03/21	20d	
24	Discover technical challenges of bringing it to market	Luke	03/02/21	09/02/21	5d	22
25	Anaylise data and develop data graphs	Adrian	10/02/21	16/02/21	5d	24
26	Develop Financial plans	Adrian + Luke	17/02/21	25/02/21	7d	25
27	Organisation Summary	Adrian + Luke	26/02/21	02/03/21	3d	26
28	☐ Revised software specifications	Adrian + Luke	10/03/21	24/03/21	10d	
29	Devolep Process flows + UML Diagrams	Luke	10/03/21	15/03/21	4d	
30	Software Architecture Diagrams	Adrian	10/03/21	15/03/21	4d	
31	Develop Zackman framework	Adrian + Luke	16/03/21	24/03/21	6d	30
32	Deploy MVP	Adrian + Luke	31/03/21	06/04/21	5d	17
33	Test MVP	Adrian + Luke	31/03/21	13/04/21	10d	17
34	☐ MVP Demo and final Pitch	Adrian + Luke	19/04/21	03/05/21	11d	
35	Devolp MVP demo Structure	Adrian	19/04/21	21/04/21	3d	
36	Create Pitch Presentation	Luke	22/04/21	26/04/21	3d	35
37	Pitch Project MVP	Adrian + Luke	03/05/21	03/05/21	1d	
38						

Figure 4: Gantt Chart Task List

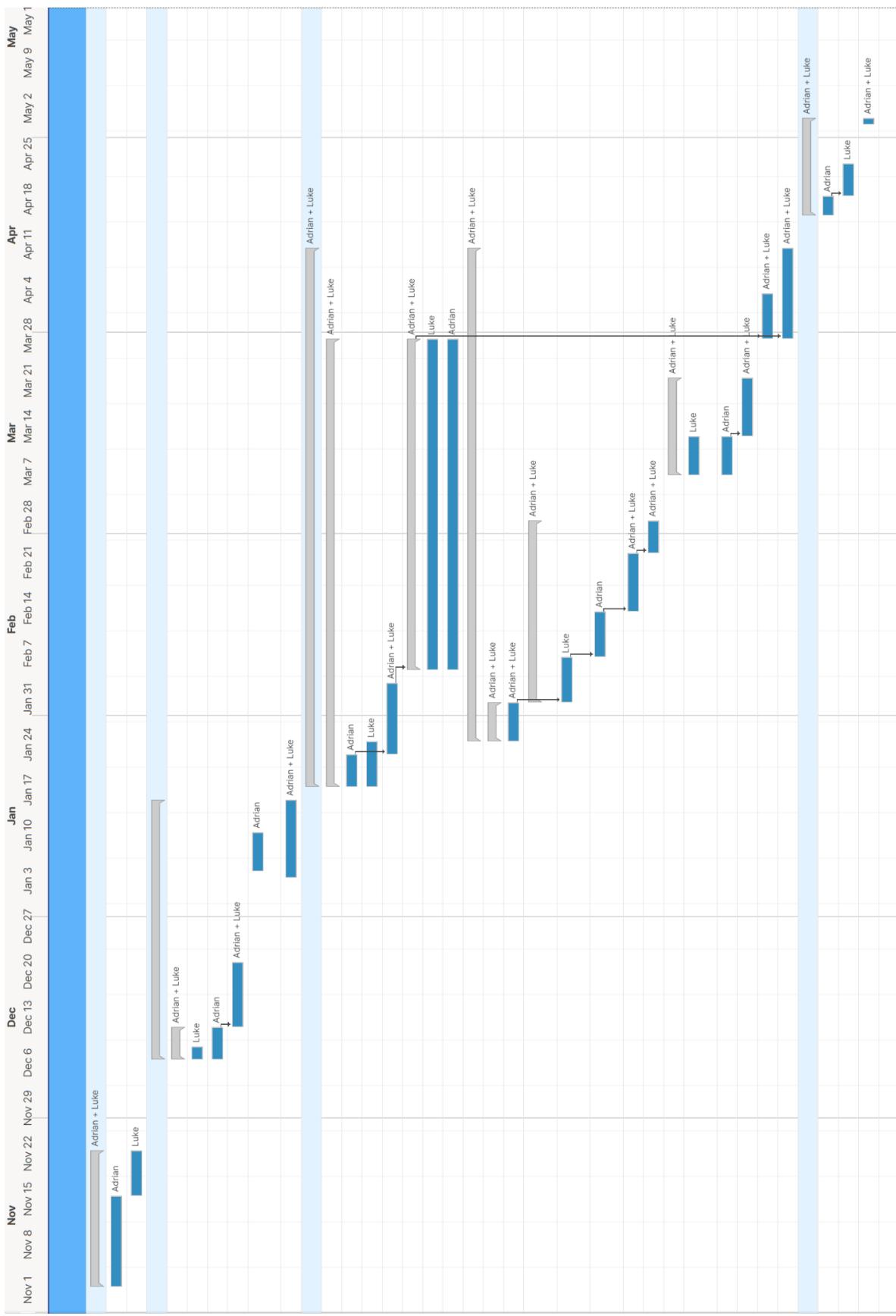


Figure 5: Gantt Chart

2. Business Case :

2.1 Business Context

The processes involved in our multi-sided platform for both gym customers and gym owners is simple and straightforward. In the case of gym customers, first and foremost GymNow can be used by guest users to browse and compare the price and availability of gyms and classes throughout Ireland without signing up. A business owner will represent the fitness service providers who can make bookings like any other user but with the additional capabilities of creating an advertisement for their service and displaying it on our platform free of charge. A regular user will represent the customer side of the multi-sided platform who will be booking and paying for services such as a gym booking, yoga, pilates, etc. on our site. Once the customer has selected an available booking and completed the payment process for the one time fee, they will be provided with a QR code gym pass which they can utilize at the chosen gym to avail of their facilities for the given time period. We plan to take a 20% commission of this one time fee paid by the customer to the fitness service provider as the one time fee may vary spending on the service. The gym owner is provided with all the required booking details and customer information from our stored database upon scanning the customers QR Code pass and they are notified prior to this once the customer has completed the booking on our webpage. We also have the option for users to choose the "GymNow" monthly membership where they pay €40 per month which gives them access to any of the services displayed on our platform for one monthly rate. Within this membership will lie a gym usage cap. This cap has a limit of 8 times one of our members can use one single facility in a month. This cap gives our partnered fitness service providers assurance that no one partner will receive all of GymNow's customers' business, ensuring the benefits of the partnership are equally spread, furthermore removing the possibility of our partnered fitness service providers losing out on revenue due to customers abusing our partnership and membership with these facilities. It also provides incentive for gym customers to try out new facilities and classes as well as ensuring the diversification of our customers over the fitness service providers on our platform.

2.2 Value Analysis

"GymNow" is a multi-sided platform that caters for two types of users or customers. On one side of the multi-faceted platform are the people or users who have a keen interest in the fitness lifestyle and attend their gym sporadically or on a regular basis. This group of people can range from the person who attends a yoga class in their local community centre once a week to the regular gym-goer, who may attend their gym facility anything from 5 to 6 days a week. These above-mentioned users are seeking variety and choice in this service sector which is provided by the users on the opposite side of our multi-sided platform, we are referring to the gym owners, personal trainers, fitness instructors etc. who can utilize our platform to advertise their service or facility in order to grow their customer base and business. The group of people who can be classified as potential gym customers for our service have a demographic of 18 - 40 year-olds, with the latest research in this area indicating there is an ever-increasing rate of 41 - 55-year-olds joining the fitness market or industry. Our service provides a stress-free process of finding a new instructor, PT or gym facility for this demographic, and currently more than ever the fitness industry is turning to electronic and automated automated systems with many smaller businesses having poorly designed and rushed systems. We believe our service can be of great value for this movement with the current covid guidelines and those thereafter, as these new practises and systems will be here to stay in the post covid landscape. "GymNow" offers customers greater choice and price comparison, as well as this we remove the stress of finding a new gym for people who more often than not choose their new gym based on word of mouth or local advertising and are left frustrated due to being limited to one facility

which they are paying an overpriced annual membership fee for not getting their full value for money, whilst having other lifestyle commitments.

The second side of this multi-sided platform addresses the needs of the gym owners, personal trainers, fitness instructors etc. In relation to the facility or gym owners, this group comprises small to medium-sized businesses that are competing against the larger franchise gyms such as Ben Dunne Gym. The second potential group is personal trainers or fitness instructors, who would usually operate in their local area trying to gain clients and expand their customer base through customer referrals and social media platforms. These trainers rely heavily on these free means of advertisement as opposed to costly advertisements online due to their limited budget. Similarly, the above-mentioned gym owners struggle to compete with the franchise gyms in their area that have a far greater resource pool and budget when it comes to attracting new customers and growing their customer base. Small to medium-sized business owners simply do not have the budget or resources to implement the right marketing strategy aimed at their target market to attract new customers and generate the additional revenue they need to stay open and profitable. "GymNow" addresses this struggle for both trainers and gym owners by offering a platform and service where they can display their facility or class directly to the target market free of charge. An essential part of any gym or facility with the current covid-19 guideline and into the future is an online booking service where customers can book an available time at the gym to attend. From our research, we found that many of the small to medium-sized businesses we spoke to had little to no experience with implementing an online booking service into their business and in some cases, there was no booking service in place at all. By integrating our online booking service into their business, gym owners and trainers have the opportunity to grow their customer base and business, achieving the goals they want without having to pay huge advertising costs or sacrificing their time and effort into areas of the business that are not essential. "GymNow" allows gym owners and trainers access to potentially one of the largest customer bases in Ireland, through the utilization of a simple user-friendly website.

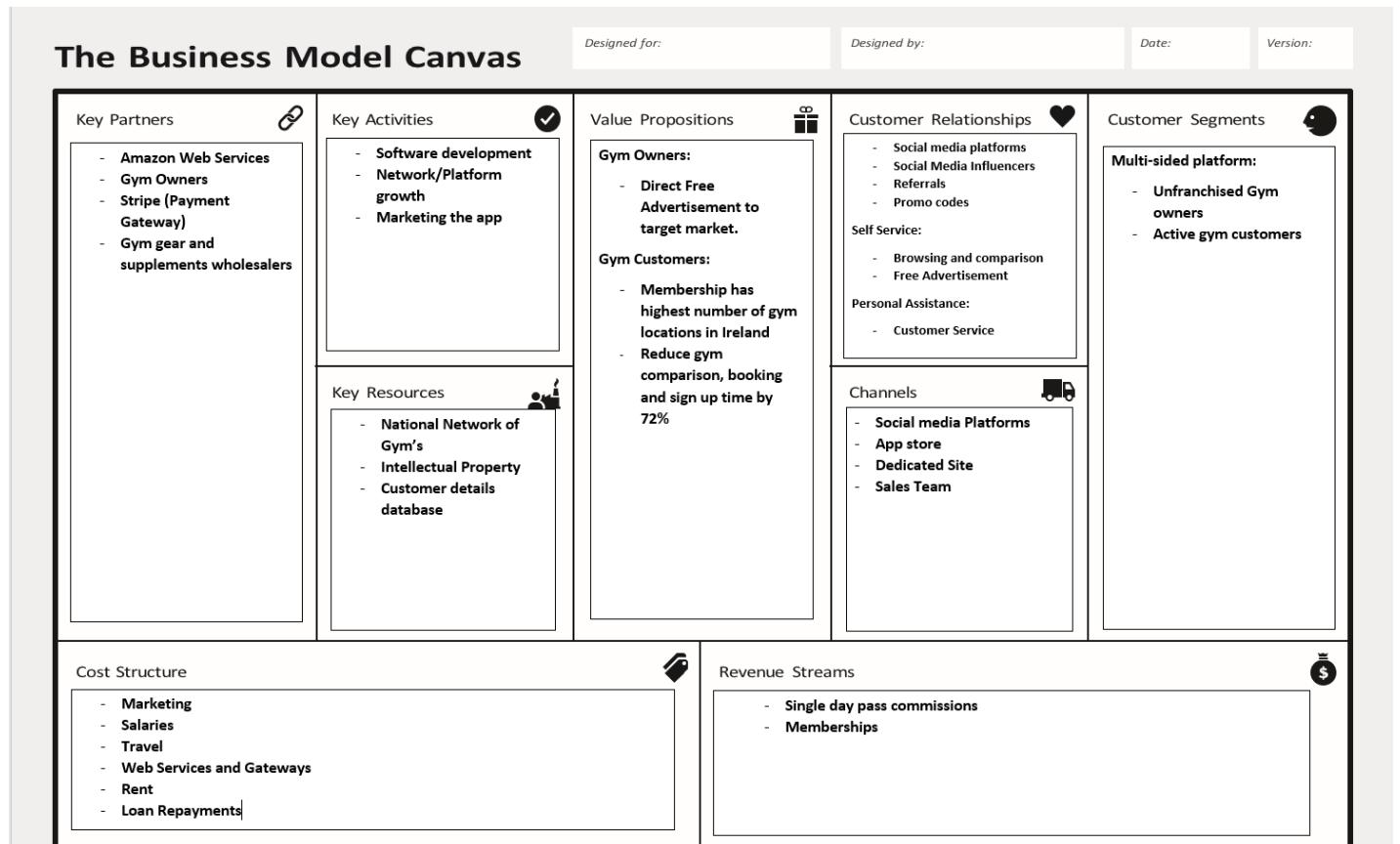


Figure 6: GymNow Business Model Canvas

2.3 Market Analysis

2.3.1 Proposed Market:

The proposed **Total Addressable Market(TAM)** GymNow is the global fitness industry. If we take a look at the latest IHRSA report published September 30, 2020 (The 2020 IHRSA Global Report, 2020), the global market size in the fitness club or gym industry is \$96.7 billion, with approximately 184,000,000 gym members worldwide. With a 7.70% CAGR post COVID-19 according to a ResearchandMarkets report into the 2020-2024 Global Health & Fitness Club (Gym) Market (Itd, 2021).

Within our TAM the **Served Addressable Market (SAM)** is the European health and Fitness club market which according to a Deloitte European Health & Fitness Market report 2020(*european health and fitness market report - Google Search, 2020*) has a value of €28.2 billion with a 3.1% yearly growth rate including 63,644 health and fitness club and 17.2 million members. There has also been an 3.8% increase on membership growth backing up an increase in revenue growth with an increase in customer growth, a very beneficial trend for GymNow's business case,

Then turning our attention to GymNow's **Target Market (TM)** and examining the Irish fitness industry where according to Irish examiner in 2019, market size for Irish gyms and fitness facilities is worth approximately 300 million with 720 gyms or fitness centres nationally this includes 10.4% of the Irish population currently utilizing a gym membership which is approximately 510,000 people in Ireland. The compound annual growth rate for the period of 2020-2024 for this Irish market according to a recent Statista report is 5.4% (*Fitness - Ireland | Statista Market Forecast, 2020*), which is larger than that of the European at 3.8% indicating the Irish market is an emerging market providing more business opportunities. A previously mentioned the fitness industry is one of the fastest-growing in the world and this is no different here in Ireland, where there was a 167% increase from 311 to 831, in the number of gyms that have opened from 2010-2019 (*Number of gyms in Ireland up 167% in 10 years as commercial vacancies rise, 2020*). Outside of the current covid-19 pandemic and in the foreseeable future, this is a clear indication that there will be a number of new gyms opening nationwide that will need help advertising, growing their customer base and generating revenue, which we believe our value proposition certainly provides.

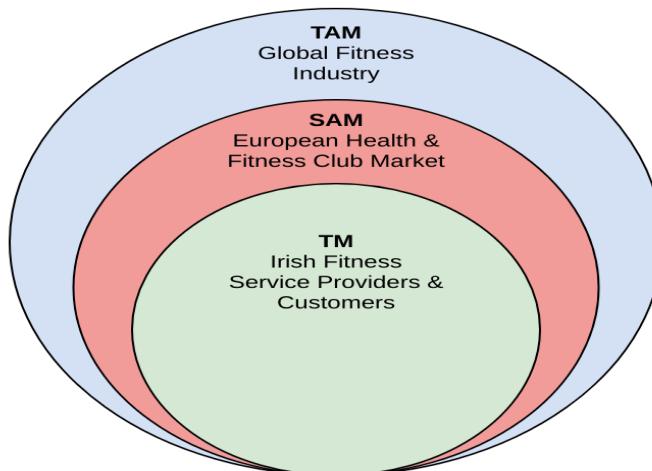


Figure 7: TAM - TM Breakdown

2.3.2 Value Propositions:

Fitness Service Providers (Gym Owners, PTs and Fitness Instructors)

- Direct free advertising to target market:

With "GymNow", gym owners, PT's and fitness instructors will benefit from advertising directly to their target market, as the users on our platform are seeking the service they are providing, resulting in direct access to their target market. This value proposition can reduce the market resource requirements that need to be invested by these businesses in order to operate at an optimum level of output. Advertising directly to this target market will also lead to an increased customer base and furthermore increased revenue. Therefore we offer a reduction in expenditure cost and an increase of revenue to these businesses and business people. The Value proposition canvas can be found in Appendix D

Gym Customers

- GymNow Membership has the highest number of gym locations in Ireland:

In the Irish fitness industry, FlyeFit currently has the highest number of locations in Ireland as part of their membership, members have access to 16 different locations in Ireland between Cork and Dublin[2] (FLYEFit Locations, 2021). This membership they offer is of benefit to only those located in these major cities but alienates the rest of the country. At "GymNow" our initial aim is to onboard 5 gyms in every county in Ireland onto our platform, this offers the proposed target market of gym customers with far greater control and variety when it comes to their membership, given any location in Ireland our gym customers have the opportunity to train where they want at an available time that suits them. We believe this is a unique value proposition and gives their membership more value than any other gym membership currently in Ireland. The Value proposition canvas can be found at Appendix E

- Reduce gym/class Comparison, booking and sign up time:

The process of finding a new gym or personal trainer that suits a customers needs and goals can be quite lengthy and a daunting task if they have little or no knowledge of the fitness industry. During the typical process of selecting a gym or fitness class to attend, users take a number of factors into consideration when making their selection, first by location followed by time then by quality and price. Much of this decision-making process can be reignited by the problem at the conclusion of their choice which relates to quality and time. This comparison can become painstaking, which is then preceded by the time consuming process of booking and sign-up forms which adds again to the time taken from users day. Our system will allow users to perform these comparisons together as well as booking in one convenient single platform. Annoying sign-up forms will be removed as all the required information to make a booking is initially gathered when the user registers on our platform. GymNow offers a simple easy to use UI which provides a quick and easy comparison solution to this problem, and gives more time back to people's day making the once dreaded process an enjoyable opportunity.

2.3.3 User/Customer Segments:

Any fitness service provider who is looking to increase their customer base and advertise their service can benefit from the use of "GymNow". On the other side of this multi-sided platform is the general population of fitness customers who are seeking the right gym, class or facility to suit their needs. The full breakdown of our expected customer segments we hope will utilize our platform can be seen below:

- Gym Owners:

As mentioned previously in the above section on our proposed market, there has been a sharp increase in the number of gyms and similar facilities opening in Ireland over the last number of years, with a 167% increase from 311 to 831, in the number of gyms that have opened from 2010-2019 (Number of gyms in Ireland up 167% in 10 years as commercial vacancies rise, 2020). There is a great financial strain on these start up businesses and so it is vital they invest their money into their business effectively and efficiently, as well as allocating their time and effort into the right areas. From talking to many gym owners we found they were relatively inexperienced in advertising and marketing effectively to their target market which is roughly 510,000 people in Ireland and growing,(10.4% of the Irish population currently utilizing a gym membership) and in many cases they simply do not have the budget resources to reinvest into advertising or advancing the operational areas of their facility. "GymNow" offers these gym owners direct access to their target market allowing them a platform to display their facility to our customer base without any costly advertising fees.

- Personal trainers / fitness instructors:

Similar to the gym owners the rise in personal trainers has seen a huge increase over the last while in relation to digital fitness given the current national covid guidelines. With people being unable to attend gym facilities for a period and the promise of better times ahead they are going down the path of digital fitness and seeking online coaching through leveraging personal trainers and fitness instructors online. Many of these personal trainers are inexperienced in advertising or gaining customers as they may usually just gain new customers through word of mouth. Through our platform they have access to their target market and can display the classes they want to take at a time that suits them so they have an effective control over their business, and with the market in Ireland continuing to grow it is presenting opportunities for the likes of personal trainers and fitness instructors to thrive.

- Gym Customers:

There are approximately 184,000,000 gym members worldwide, with the figure for Ireland being roughly 510,000 people who currently hold a gym membership. Over the course of the first round of lockdowns in 2020, the downloads of health and fitness apps increased by 46 % globally as gyms were forced to close in line with government guidelines and people's exercise options were limited (Digital fitness comes into its own with breathtaking possibilities, 2021). With the current situation, there has been a great focus on staying healthy and fit to limit the impact of lockdown and this pandemic on people's mental health. With recent trends showing that the fitness industry is one of the fastest growing in the world, we believe into the future outside of lockdown there will be a huge number of people looking to sign up to new gyms and acquire new personal trainers. From our primary research we found that many people were left frustrated with their current gym being limited to the one facility which in some cases did not have the equipment they needed and they felt they were not getting the full value for their membership, with the latest trend of online booking a session at your gym being quite a hindrance too many as the gym was often booked up or the time that suited them was unavailable. "GymNow" offers customers access to far greater variety and choice in the form of gyms, personal trainers and fitness instructors, where they can compare and contrast the options on our platform to find the fitness service provider that suits them.

2.3.4 Key Resources:

- National network fitness service providers:

This is the network of fitness service providers our platforms hope to boast on our platform and is one of the key resources in providing the value proposition of fitness service provided variety and choice to our users. Our sales team will be charged with growing and managing this national network of gyms on our platform, the sign up feature on our website also allows potential new customers to sign up and display their service on our platform if they wish.

- IP (Intellectual property):

IP is the intangible creation of our business idea by the group members, and is one of the most vital resources of this project and is also a key resource in our business model canvas. We will need IP protection in order to proceed with our business idea, this is done through obtaining Patents, Copyrights, NDAs, Confidentiality Agreements, which are all necessary to protect the shareholder and the business as a whole. It can also be essential when it comes to securing funding for our business which we plan to do. This legal consideration would be carried out by working with The Intellectual Property Office of Ireland, which is responsible for intellectual property rights in Ireland.

- Customer details databases:

This database contains the gym customers that are already signed up to our platform or who have used our website. In compliance with GDPR, we share this information with the partnering fitness service providers whenever a user on our platform wishes to utilize their facility or service. This key resource is vital to the day to day operation of "GymNow", and the value proposition for the fitness service providers as this customer database is their proposed increased customer base and direct target market. Obviously, GDPR comes into question when handling this database and legal GDPR consultants are used and consulted when handling any customer details or sharing them with partnering facilities or instructors.

2.3.6 Key Activities:

- Software Development:

Outside the scope of the project and into the future, we hope to introduce an application along with our website which would be available through Google Play and the App Store. Initially, we will have developed our first working prototype of the website leveraging the Python web framework known as Django, which will first be used as our main platform for customers. The process of developing the future application is another key activity for the future in this software development process. This involves the development of our application by the front-end and back-end developers involved in developing the first running prototype of our application. This will also include such key partners as Amazon Web Services and Stripe. Only half the work is done by developers when the application launches, we always have to be looking for ways to update the app and keep it relevant and fresh by developing new software, all the time looking to increase user engagement, some of the main reasons businesses should regularly update their application is to keep users happy, stay ahead of bugs, make "hardly noticeable" Tweaks to your UX, keep up with technology and to stay relevant. According to a recent survey by The Manifest, more than a third (38%) of companies update their app every month, while almost half (45%) update their app every 2–6 months (5 Reasons Businesses Should Update Their Mobile App Regularly, 2020). This will all depend on our revenue and budget.

- Network/Platform Growth:

Our sales team will be a vital cog in the growth of our network and the accumulation of signed up fitness service providers, this is a vital part of our business idea and an ample network of fitness service providers will need to be in place come launch, to ensure that our value proposition of offering multiple gym locations throughout the country. Just as important an activity is the growth of our platform after launch, and with the greater network of fitness service providers on our platform, the greater the variety and choice our user's experience, which we hope will increases user engagement on our website and future application, as users are always looking for the next best thing or may simply want to try something new and fresh.

- Marketing the platform:

Marketing the platform or service through our channels will be essential in gaining exposure to our target market, and to getting our platform off the ground during the initial phases of the launch. As mentioned above in our social media channel, we first plan to market the platform primarily through social media platforms such as Instagram, Facebook, Twitter etc. and at the same time utilizing Instagram fitness influencers to advertise directly to our target market as this group of people have a growing influence on the digital fitness industry especially on the demographic of people aged between 18-40. In the future then we plan to use our website and through initiatives such as our referral program to grow and market the launch of the application.

We calculated the member lifetime value to predict how much revenue a member of our application would generate while using GymNow. This can help us understand how much revenue each member makes and allow us to make intelligent marketing decisions and implement the right marketing strategy (How Much Should Gym Owners Spend On Marketing?, 2021). By adding together our leads and how much they are costing, GymNow can generate a pretty accurate model of how much its gym marketing spends needs to be in order to operate at its required revenue goals (5 Steps To Setting a Gym Marketing Budget, 2021). We were able to make a rough estimate that GymNow spends €6050 in order to get 1075 leads which is a lead acquisition cost of €5.66.

2.3.7 Revenue Streams:

Our platform is primarily an online comparison site where users can visit and compare and contrast the fitness service providers displayed on our platform, be it a facility, personal trainer or fitness instructor. We have two main revenue streams which are detailed below:

Single-day pass commissions:

The single-day pass is the one-time fee our users will pay for the use of one of the partnered fitness service providers on our platform be it a gym, online class, personal trainer or fitness instructor. This one-time fee will vary depending on our agreement with the fitness service provider and the quality of the service provided, for example, a facility with state of the art equipment or renowned reputation may demand a higher price than say a regular gym facility.

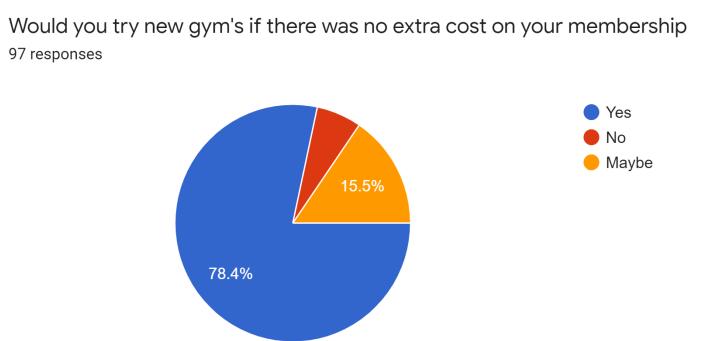


Figure 6 : How often do you visit a gym without membership

"GymNow" hopes to agree that with any one-time fee the fitness service provider receives through utilizing our platform for a customer to use their service, we will get 20% of this fee. According to our primary research, while carrying out the survey questions, we found that only 33.3% of respondents who are gym membership holders never visit a gym without membership, with the rest visiting from a range of once to twice a year all the way to 10+ times a year. From this, we can say that 66.6% of our target market in the fitness industry visits a gym and pays a one time fee.

Our target market is 390,150 customers, this figure is taken from our primary research where we asked respondents "Do you want to try a new gym?". We concluded that at the minimum our target market would be 26.5% of the 510,000 (10.4 % of the population holding a gym membership Irish Examiner 2019) gym membership holders in Ireland and this figure is set to increase with there being a CAGR for the period 2020-2024 of 5.4% from a Statista report.(Fitness - Ireland | Statista Market Forecast, 2020).

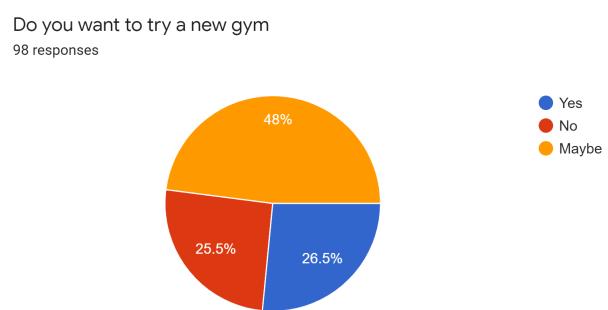


Figure 7: Do you want to try a new Gym

This then brings us to a number of 137,700 possible users and at the other side of the scale when combining the yes and maybe we come to 76.5% and a total user market of 390,150, We also gathered that 67% of our survey use a day pass at least once a year equally 259,000 customers of our total user market. If we divide this by the 12 months in the year we get 21,650-day passes per month nationwide. We hope our app may get 15% of those day passes with marketing cost reduction, direct access to target market, variety & choice of gyms, and removal of the lengthy sign-up process value proposition. This 15% would give us 3,250 day passes where we hope to gain 20% per commission on an average €10 booking giving us €8,125. This number is hoped to increase per month as publicity of our app increases; however, we do believe to see some drop in growth as we think users may opt into our membership upselling option after positive uses. By entering the UK and following the same rational as stated above we would have a total user market of 7,372,000 with 405,460 day passes per month 15% of which would give us 60,819 day passes per month and a total commission of €121,638 per month. UK gym market size was gathered from (*Fitness industry in the United Kingdom (UK)*, Statista)

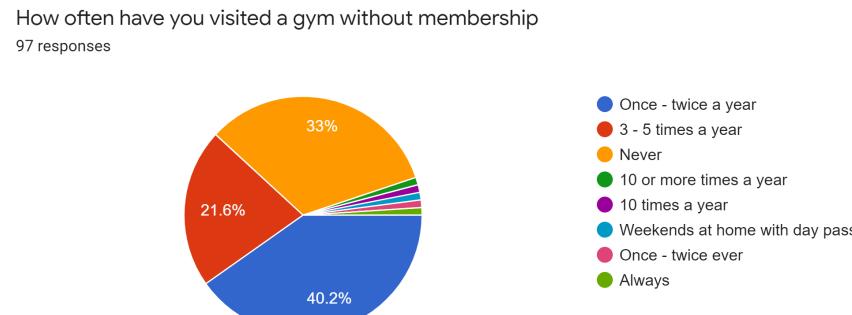


Figure 8: Single day Pass Percentage

Memberships:

Our platform will also offer users a monthly subscription-based membership, which will allow users access to any of the gyms available on our platform at a reduced rate for the one-time fee as the price will vary with the gym. We plan to pay €1.25 of the one-time fee to the fitness service provider, in order for our subscriber to be getting a subsidised one-time fee. For the "GymNow" membership we have settled on the price of €40 a month reasoning is discussed below in section 2.3.10, We also concluded that 70% of customers pay €30 or less, so a day pass rate of €1 + €0.25 will be given to each partnered

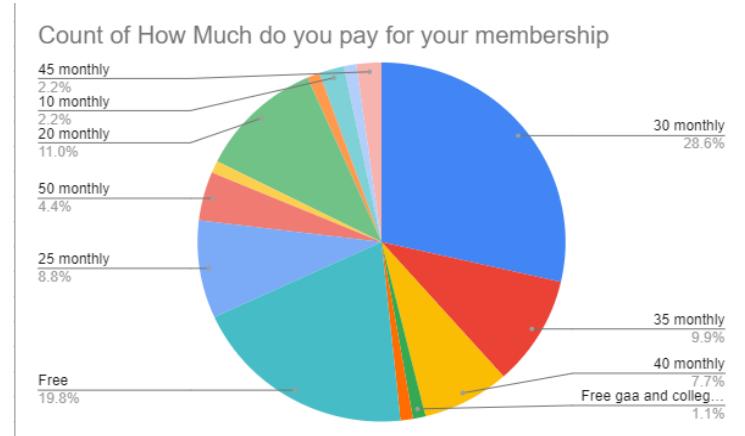


Figure 9 : Average Membership Costs

fitness service provider every time a “GymNow” member utilizes their service. We also found that active gym membership customers go to the gym $\frac{3}{4}$ time a week. In the case of our sales, we are taking a precaution 4 times a week, that is 16 times a month and which means on average we will pay out €20 to the fitness service providers per month from the membership subsidies. Therefore we stand to earn €20 profit per member. Our plan is to gain 2,000 members in the first month of the launch of our website. We have set this number so high because sufficient resources are to be focused on marketing and leveraging partners like social media fitness influencers. We are also confident that our idea is good enough to gain these kinds of numbers once customers have heard of it going by customer interactions and while questioning many said they would use the app once it was explained to them. This 2000 at €20 profit will give €40,000. We plan to see exponential growth in members with referral campaigns and also the expansion of the network of gyms. For the second month of app release, we hope to reach 3,500 members and month three to reach 5,000 where marketing will be increased and our application which is outside the scope of the project but planned for the future. At the conclusion of the year, we hope to reach 10,000 members which are 2.56% of our 390,000 total user market members nationwide. In year two with a corresponding increase in marketing, sales and development costs GymNow hopes to increase this to 8.5% of the total user market. With this increase revenue and re-investments made to achieve similar levels of success in the UK market as outlined below in section 2.5, GymNow plans to enter the UK market and start with 1.5% of the UK total user market of 7,372,000 would give GymNow 110,890 members receiving a monthly revenue of €2,211,600 and with continued investment for this also to reach 2.56%.

2.3.8 Costs:

This is just a brief synopsis of the main costs involved in our business. This is discussed in further detail below in section 2.5 financial requirements.

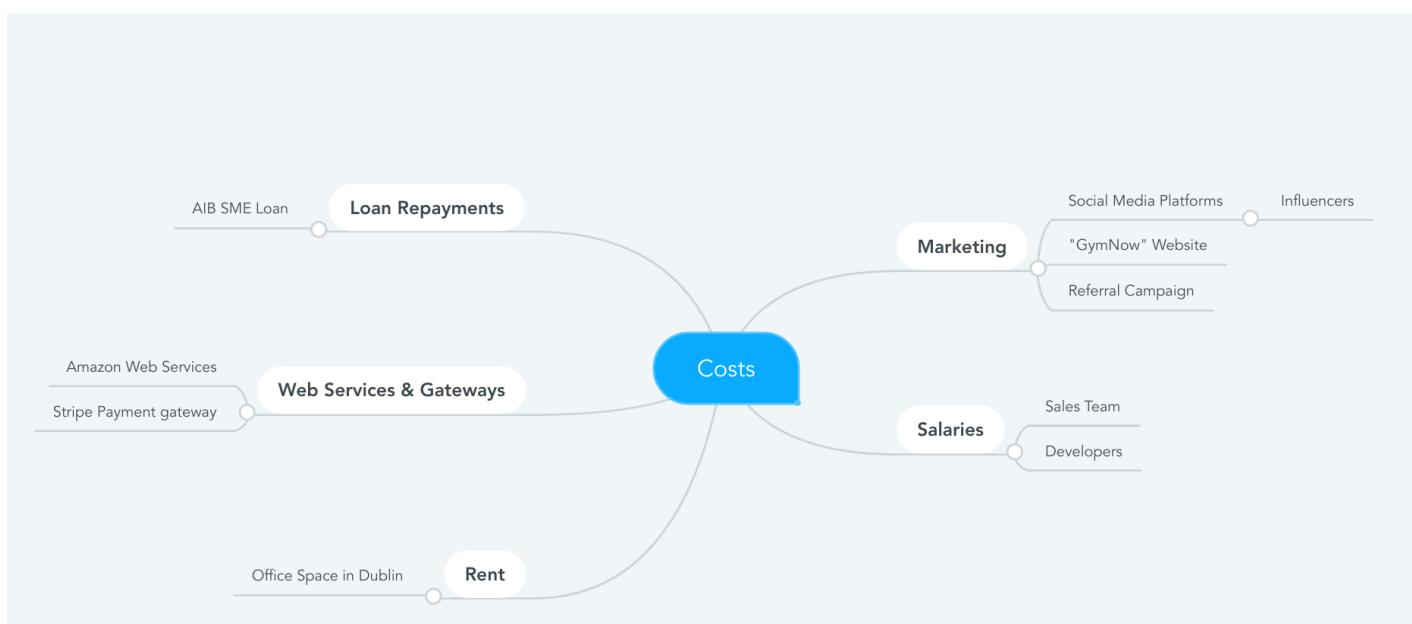


Figure 10 : Cost Breakdown

2.3.9 Supporting Industry Trends:

There are a number of supporting industry trends which we believe can be of great benefit to the launch of "GymNow" and they are summarised below:

- The global fitness industry is one of the fastest-growing markets in the world, With 210,000 health and fitness clubs worldwide and 184,000,000 members to their club worldwide (The 2020 IHRSA Global Report, 2020). This point is proven further with the CAGR(Compound Annual Growth Rate) for the period 2020-2024 is that of 7.81% from a report by The Health and Fitness Club Market report published August 28, 2020 (Health and Fitness Club Market 2020 Size, Share Global Production, Business Growth, Industry Revenue, Demand and Applications Market Research Report to 2024, 2020).
- Considering things then on a national scale here in Ireland where "GymNow" will initially launch, from our secondary research we found the Irish Gym market size is roughly 300 million with 720 Health and fitness clubs and 10.4 % of the population holding a gym membership that's approximately 510,000 people, with these statistics taken from a report by the Irish Examiner on July 21, 2019, and furthermore, this figure has obviously increased since then with a CAGR for the period 2020-2024 of 5.4% from a Statista report. (Fitness - Ireland | Statista Market Forecast, 2020).

2.3.10 Chosen Pricing Model:

Additional details on pricing and why we chose the below figures can be found in revenue streams and our primary and secondary research.

- Single day pass commissions: The price of the single day pass to use one of the displayed fitness service providers may vary depending on our agreement with them, but we hope to agree that "GymNow" will take 20% commission of this one time fee paid to the fitness service provider
- Memberships: "GymNow" will also try to upsell our platform membership to our users, which can vary from 1, 3 and 9 months. This membership gives our users access to any of the fitness service providers displayed on our platform at a reduced rate for the single day pass, as we plan to pay for €1.25 of the single day pass to the fitness service provider, so our members are getting a subsidised one time fee. The "GymNow" membership will be €40 a month, we came to this figure as we currently can't go by a cost-driven structure as we are a start-up and will instead go for a value-driven price, saying this €40 a month is in the higher end of the price of a gym membership in Ireland, with only 30% of the customers we asked are paying €35+ monthly membership and however when comparing this to our competitors for example GymPlus who charge €59 for access to 8 gyms nationwide we believe this is a reasonable fee to charge customers given the value proposition and taking into consideration our secondary research into this matter. In the UK market it also has an average membership €45 taken from a report from Your money advice service (*How to get a cheap gym membership (2020) Your Money Advice*) who have a more competitive market of multiple location gym memberships, helps support our membership pricing.

2.3.11 Competitor Analysis:

Irish Fitness Market Competitors:

The three main competitors to “GymNow” in the Irish market are that are offering similar service are:

- Ben Dunne Gyms
- FlyeFit
- Gym Plus

What makes these businesses similar to our service is that these fitness service providers bolster multiple facility locations, although mostly in cities at a competitive market price and the facilities equipment is of a high standard. If we are first to compare the monthly membership price offers of these franchises, “Ben Dunne Gyms” offers the best competitive price at €29 per month, but its customers are restricted to facilities located mostly in Dublin. The franchise was known as “FlyeFit” is well regarded for its roaming membership where it allows its customers access to all 16 of its facilities, which again are limited nationwide as the majority

are located in Dublin with one facility in Cork city. The “FlyeFit” monthly roaming membership is €32 per month, plus an additional €25 signing up fee. This roaming membership has been a major focal point of the success of “FlyeFit” up to now in the Irish fitness market, and why many of the participants in our primary research are “FlyeFit” customers. Finally, then the third main competitor we looked into in the Irish market was “GymPlus”, they are a slightly less well-known franchise, that being said it does boast a company application for its customers, which the others do not include, the app is known as “FitSense” provides customers with features such as nutritional plans, home workout plans along with featuring links to book local swimming pools and fitness classes. We plan to also feature personal trainers, fitness instructors and online classes available to be booked on our platform, which we will dive into in greater detail in our technical delivery. “GymPlus” has quite a high-end price for their monthly membership compared to the other competitors mentioned above, with a €59 per month membership fee to gain access to all 8 of its gyms located between Meath, Kildare, Cork, Louth and majority located in Dublin. All three gyms have a social media presence on Twitter (Flyefit), Facebook (Ben Dunne, GymPlus, FlyeFit) and Instagram (FlyeFit) where they post regular updates, photos, deals, competitions and keep in contact with their customers. Flyefit seems to be the most active and has also the biggest following which we believe lies some sort of correlation between the two.

	FlyeFit	Ben Dunne Gym	Gym Plus
Overview	<ul style="list-style-type: none"> → FLYEfit is an Irish owned chain of gym facilities, catering for all levels of fitness and disciplines. → Founded in 2011 in Ranelagh where they opened their first gym. 	<ul style="list-style-type: none"> → Ben Dunne Gyms is an Irish owned chain of gyms, boasting nine locations in Ireland and the UK. → Founded in 1997 opened their first gym in Blanchardstown. 	<ul style="list-style-type: none"> → Offers gym, pool, spa facilities, studios, specialist equipment or service areas for beauty and health treatments in Ireland → Founded
Target Market	<ul style="list-style-type: none"> → Demographic users is mainly men and women aged between 18 and 35 → Tech savvy and uses their phone regularly and iPad where a lot of their marketing is implemented. 	<ul style="list-style-type: none"> → Budget gym outfit focusing on growing their customer base in Dublin, also looking to expand around the country with smaller Gyms → Demographic of people looking for low cost membership 	<ul style="list-style-type: none"> → Demographic of people in the age category of 18-40 → Tech savvy as lot of their marketing through the "Fit Sense" app and social media
Pricing	<ul style="list-style-type: none"> → Roaming Membership (access to all gyms): <ul style="list-style-type: none"> ◆ €32 Monthly + €25 Joining Fee → Membership (access to one gym): <ul style="list-style-type: none"> ◆ €29 Monthly + €25 Joining Fee → Online classes free with membership 	<ul style="list-style-type: none"> → Membership (access to one gym): <ul style="list-style-type: none"> ◆ €29 Monthly + €25 Joining Fee 	<ul style="list-style-type: none"> → Silver Monthly (access to all but one gym): <ul style="list-style-type: none"> ◆ €49 Monthly + €35 Joining Fee online → Gold Monthly (access to all gyms): <ul style="list-style-type: none"> ◆ €59 Monthly + €35 Joining Fee → Accelerate: (access to online classes): <ul style="list-style-type: none"> ◆ €10 per month
Marketing Strategy	<ul style="list-style-type: none"> → Advertising → Big social media presence: <ul style="list-style-type: none"> ◆ Twitter, Facebook, Instagram, YouTube → Website (contact, news and events and help centre page) 	<ul style="list-style-type: none"> → Advertising mainly through local news → Social Media: <ul style="list-style-type: none"> ◆ Facebook & Instagram → Website (very basic) 	<ul style="list-style-type: none"> → Advertising → Fit Sense App (Apple & Android) → Social Media: <ul style="list-style-type: none"> ◆ Facebook, LinkedIn, Instagram, Twitter, Youtube → Website (blog on fitness news and tips)
Strengths	<ul style="list-style-type: none"> → Roaming membership gives customers access to all 16 gyms (highest current nationally) → Well established with the younger generation, mainly due to their presence on social media → Great networking possibilities for their staff → Offers online classes to members 	<ul style="list-style-type: none"> → Low cost budget membership open to all age groups → Growth of their gyms in Dublin over the last few years with 53,000 members in 2019 → 10 locations nationally 	<ul style="list-style-type: none"> → Offers online classes with membership → Strong presence on a variety of social media platforms with blog on their website → "Fit Sense" app on Apple & Google offers nutritional and fitness advice and plan, as well as the ability to book local swimming pools & classes → 8 gyms spread nationally in Meath, Dublin, Kildare Louth, Cork
Weakness	<ul style="list-style-type: none"> → High turnover of staff as many are just interns and unpaid having to work long hours → Primarily located in just Dublin & Cork → No mobile application → High number of members can sometimes mean gym is regularly booked up 	<ul style="list-style-type: none"> → High turnover of staff paid low wage → Dated website and not much of a presence on social media → No online classes available → Membership limited to the one you join 	<ul style="list-style-type: none"> → High cost membership at €59 Monthly + €35 online Joining Fee for 8 locations nationally → The majority of their gyms are located in Dublin.

Global & United Kingdom Fitness Market Competitors:

"Train Away" has the most similar business concept to our service on the market. Their service also allows their users to search for a gym in their location or any location, book a day pass through their app and then show the gym pass at the facility. However they only offer the day pass feature and there is no subscription or membership service, as well as this, "Train Away" is primarily based in the Global & UK market with only one or two of their partnered facilities being located in Dublin. The breakdown of "Train Away" can be found below.

	Train Away
Overview	<ul style="list-style-type: none"> → Focus is on fitness and travel. Gives their users direct access on the go by providing gym access in over 800 cities across 46 countries, with roughly 1500 gyms. → Founded in 2016 by Alexander Schröder and Kenn Gudbergsen → HQ located Copenhagen, Denmark team of 15
Target Market	<ul style="list-style-type: none"> → Tourism and wellness industry → Target market is aimed at the 18-35 year old demographic who like to travel and enjoy fitness → Also looking to partner with gyms worldwide
Pricing	<ul style="list-style-type: none"> → 30 day valid pass to use a gym. Prices vary from €10 - €50
Marketing Strategy	<ul style="list-style-type: none"> → Advertise and market mainly through their website and application (App store + Google Play) → Most active on Instagram, Facebook & LinkedIn where they engage with users and post content, not as regularly recently presumably with covid-19 pandemic. → Marketing is aimed at the travel + fitness enthusiast
Strengths	<ul style="list-style-type: none"> → gym access in over 800 cities across 46 countries, with roughly 1500 gyms. → Simple and engaging website and application → IHRSA Passport Program for users and businesses is a global network of quality health clubs offering you guest pass access at discounted rates. → No lengthy sign up process, simple register with name, email, password and then update profile if you wish with DOB, age, country
Weakness	<ul style="list-style-type: none"> → Little impact made on the Irish market with 2-3 gyms located in Ireland → No monthly membership offering, provides only day pass feature → Business owner customer base focuses mainly on high-end facilities and not small to medium sized businesses → Provides no online classes, personal trainers etc. → No fitness content such as news, blog etc. on website or app

2.3.12 Competitive Advantage:

Below are the main competitive advantages “GymNow” has over the above mentioned competitors and more, which we hope can elevate GymNow above the competition in the future:

- “GymNow” hopes to boast the highest number of partnered gym locations in Ireland upon launch, our aim is to have at least two partnered facilities in each county in Ireland therefore giving our users and members access to gyms and facilities across Ireland and not just in the major cities. Our sales team will be charged with bringing this value proposition to light as they will travel around Ireland pitching our idea to business owners and facilities.
- Our monthly membership gives our users access to any of the partnered facilities on our platform at a reduced rate. As well as being able to pay a one time fee to use a gym on our platform, our customers can also book online classes, personal trainers or fitness instructors. Given the recent changes in the fitness industry in light of the pandemic, we believe this gives “GymNow” a competitive advantage over our competitors, as there has been a huge growth in digital fitness and online training over the last few years.
- Initially our first working prototype will be our website, but we plan on implementing both our website and application in the future which would be available on Apple and Google. The website is a multi-sided platform which engages users and fitness service providers. By increasing our status on these platforms we feel we can surpass our competitors who may not engage their customer base as much.
- We feel it is also important to have a big engaging presence on social media platforms with the recent growth in popularity of fitness online, so the majority of our marketing effort will be focused on engaging customers and growing our customer base leveraging social media fitness influencers and posting regular content on Instagram, Facebook & Twitter etc.
- Our business idea can appeal to all business owners and fitness service providers, but our primary focus is on small to medium businesses. By partnering with these fitness service providers we allow them to still own and control their business, we simply provide the service to them to elevate their business. We offer the opportunity of integrating our online booking system with their platform, as well as giving them access to their direct target market.

2.4 Primary and Secondary Research

2.4.1 Primary Research:

• Fitness Service Provider’s Interviews:

We contacted our many Fitness service providers to organise interviews through both emails and over the phone (which was more effective than email), with 8 gym owners, 3 PTs and 1 yoga instructor who worked in various areas including Cavan, Laois and Dublin, to discuss the possible implementation of our service with their business and what they thought of our initial business idea. From our primary research carried out with these fitness service providers, we were able to conclude that seven out of the twelve people we contacted who had some association with their gym or service, we’re open to the possibility of displaying their service on our platform and working with us.

With each of the people we contacted, we also discussed their day to day struggles in the operation of their facilities. We learned that some of the recurring issues or struggles for these small to medium-sized businesses was attempting to compete with the bigger franchise gyms for potential customers, and this was certainly the case in Dublin where these franchise gyms had far greater resources in terms of budget and facilities, the likes of which the gym owners we spoke to could not compete with when marketing their facility to grow their customer base. Many of these gym owners also found their resources and

efforts were exhausted in areas such as marketing and advertising, an area in which many had little experience in advertising to their direct target market. As was the case with many of these gym owners, they utilized only local news forums, Facebook or Instagram pages as a means to advertise their facility to customers who were not really their direct target market. This was certainly the case with personal trainers and fitness instructors also who operated mainly through Instagram and word of mouth to try to gain customers.

A recurring benefit was the introduction of an online booking system, which our application provided. In the current covid-19 situation many facilities are moving to an online booking system and the days of being able to just simply walk into the gym at any time or date are gone, nowadays gym customers have to book a slot online in a gym to use the facility, and while there were a small few of the fitness service providers who already had an online booking system in place and would rather not display their gym or service on our platform, the vast majority had little or no experience or the technical know-how to put an online booking system in place, and were in some cases using an over the phone booking system. These service providers would stand to benefit from the booking system our application provided, in addition to this they mentioned that this could possibly introduce additional customers which they greatly need in order to create additional revenue and keep their business running and could possibly reduce their marketing and advertising efforts. With the few fitness service providers who said they would not be interested in our service, the main reasons for them were that they already had a sufficient online booking system in place or that they had previous background experience with marketing and advertising when it came to promoting their gym. They also didn't want anyone outside of members using their gym and thought our application would reduce the number of long term members in their gym.

- **Student & Friends discussion:**

We also spoke to many of our friends and fellow students from the college as well as outside college, to gather their general thoughts and current frustrations with the Irish fitness industry and their current active gym membership. From these discussions, we were able to gather their feedback and thoughts which were vital in developing our business concept and value propositions. Many said that they were left frustrated at the ever-increasing price of membership fees and also with their current gym membership due to it being constantly overbooked or overpopulated during peak hours, and due to this they had to make certain lifestyle choices and were unable to attend their gym after work or other commitments and therefore not benefitting from the full value of their membership. Another main concern for them was that they were limited to this one facility which they had chosen and in some cases, the one facility did not have the viable equipment they needed or wanted, as well as it is located possibly at home or not in their current location, which was a big inconvenience as they were now living in Dublin to attend college or work. These problems were often only learned by the customers after making the purchase and committing to their gym membership, many people were also left annoyed but ultimately learned to have to deal with these issues as it is the nature of the current trend in gym memberships.

- **Gym survey:**

As discussed above in section 2.3.7 Revenue streams, A Google survey was sent out to club sport teams members, fellow students and work colleagues. Our data set was over 100 people by the conclusion.

- Here are some of the main findings from our survey:

1) 78% would open to trying new gyms with no extra cost on their membership. This supported our initial belief that having the highest number of available gym locations in Ireland under one membership would be well used and a great benefit to customers.

2) When asking the participants how much they pay for their monthly membership, 70% of their membership cost €35 or less. This was of great benefit in establishing our cost structure and pricing

model as it gave us an approximation of the figure we needed to charge in order to gain a high number of potential customers.

3) 66.6% of respondents have paid for a day pass at least once a year. This was a much bigger fraction than we expected which boosted the potential benefit of reducing gym comparison, booking and sign up time by 72% by having one single convenient location for all on our app for the gym customer market.

4) We were also able to establish that 76% of our respondents said they would never change gyms or only every 3-5 years, so the average member lifetime value would be approx 5 years. In our secondary research below we go into greater detail on how this figure was used to calculate the member lifetime value (MLV) and then lead acquisition cost.

All Key Results along with a link to the survey can be found in Appendix F

2.4.2 Secondary Research:

Our Secondary research was focused mostly on market analysis and the costs of bringing our idea to the market, we also carried out research into financial plans for the company which we go into further detail in our financial requirements below, as well as any GDPR considerations and what customer details we could share with our partnered fitness service providers handling our customers data. We looked into the market size which we also went into detail in our proposed market and market analysis above, we also investigated the potential expenses cost for Monthly Developer, Sales Reps Salaries, Marketing cost, Business Insurance, Dublin office rent, Equipment, Travel cost, Loan Repayments, Technology services (AWS, Payment gateways), Utilities and VAT tax more of which can be found in our financial requirements. The finding from this secondary research was used to form our companies potential commercial viability, our first-year business plan and mould where the companies incest its initial capital in order to be successful which can then be presented to potential investors. We also researched into the UK market for possible future expansion of GymNow creating further revenue, having a market size of 6.17 billion and 6,700 gym locations (*Fitness industry in the United Kingdom (UK), Statista*). We also researched into UK salaries and marketing cost which are discussed further below in section 2.5 and the averaging membership costs in the UK as discussed previously in our Pricing model in section 2.3.10

Legal and ethical considerations:

- Data Governance GDPR:**

When a user signs up to "GymNow" we will require their full name, email, location and phone number. We will have to take careful consideration when handling this information and what exactly we share with our customers and partnered fitness service providers in order to comply with GDPR, as conforming with guidelines can improve our reputation and relationship with customers and clients. Due to the fact that our website will keep customers' information GDPR certainly applies to us and the fact we are a business and have customers in the EU also. From our research into this area we were able to see the steps we have to take in order to comply with GDPR such as assigning a data protection officer, making all employees aware of GDPR regulations, explaining to customers exactly how their information is going to be used and offering a way for users to request a copy or delete all their information held by us. We gathered most of this research related to GDPR in "GDPR Explained For Health & Fitness Businesses" by Keith Lang and the cost of implementing such a structure into our business is discussed below in the secondary research.

- **ESOP (Early Share Option Programme):**

A legal issue we expect to take into consideration is ESOP - Employee Share Option Programme, which is the % of shares of our business GymNow that are put aside for the employees in the company. With our company, we plan to take the following programme of shared equity of 10% for the first 10 key employees, which will be diluted as 1% per employee.

- **IP Protection:**

The intangible creation of our business idea by the group members, and is one of the most vital resources of this project and is also mentioned above as a key resource in our business model canvas. We will need IP protection in order to proceed with our business idea, this is done through obtaining Patents, Copyrights, NDAs, Confidentiality Agreements, which are all necessary to protect the shareholder and the business as a whole. It can also be essential when it comes to securing funding for our business. This legal consideration would be carried out by working with The Intellectual Property Office of Ireland, which is responsible for intellectual property rights in Ireland. Taking a look at their website we found the cost of a patent in the case of a short-term patent has a filing fee of €60 and a further €30 fee for grant. To trademark 'GymNow" then the initial application fee is €70, upon registration then of this application a further €177 is payable and finally the renewal fee is €250 every 10 years (Statutory Trade Mark Fees, 2021).

- **Contracts:**

We will have a number of service level agreements we will have to agree upon with our key partners which are fitness service providers (internal service level agreement) and technology and software partners (vendor service level agreement). We will also have to take into consideration employment contracts which may include benefits, stock options etc.

- **Co-Founder Agreements:**

Agreements on things such as Ownership, Vesting, Roles & Responsibilities, Founder Leaving, Time, Investment will also have to be taken into consideration and agreed upon between the GymNow founders. Term sheets will also have to be agreed upon by any investors who wish to invest in our business.

- **CRO Requirements:**

To register our business and comply with the Company Registration Office Ireland we will need to submit forms and registration fees along with any relevant information within one month of adopting the business name "GymNow" The. To register the business name we would have to complete one of the following forms which has a €40 fee (Name, 2021).

- Form RBN1: for an individual
- Form RBN1A: for a partnership
- Form RBN1B: for a body corporate

- **Marketing:**

Our marketing will mainly be carried out though virtual channels online and social media platforms. We carried out research into the planned implementation of our website and future application, in regards to the planned application it will pretty much advertise itself through online stores such as the App Store

and Google Play. To publish an application on the Apple App Store would cost an annual fee of €99, then with Google Play it works slightly differently as you have to pay a one-time €25 registration fee which allows you to then publish as many applications as you want on the Google Play store. We hope to market our service through social media platforms such as Instagram where we would utilize famous fitness influencers on Instagram who have direct access to our target market, where they would raise awareness of the application and support the use of the platform through posts and stories. Utilizing such a means would cost us in the range of €80-€200 per post. Instagram influencers with under 10,000 followers can make, on average, €88.00 per post. Those with under 100,000 followers average €200.00 per post, but these numbers often vary from account to account (How Much Money Does an Instagram Influencer Make? | Petal, 2020). We anticipate this being a successful marketing strategy as many of our target audience who are regular gym goers may follow these influencers for their content relating to the gym and fitness. We also researched the cost of advertising on a website and found the average cost for displaying an ad showcasing our service on a website is about 50 cents per click, with the most expensive ads being over €50 per click (How Much Does It Cost to Advertise Online? 2020).

We would then have to promote our website after the launch of the prototype application, this differs from the application as the website does not advertise itself through the online stores mentioned above. We would again use virtual channels such as advertisements on Facebook and Instagram. Most social media advertising works on a cost-per-click basis, with most requiring a minimum budget (How Much Does Social Media Advertising Cost in 2020? | WebFX, 2020), with the breakdown being shown below.

Social Media Advertising Costs	
Social Media Platform	Minimum Ad Budget
Facebook	<ul style="list-style-type: none"> - €1 per day for impressions - €5 per day for clicks, likes, or views - €40 per day for app installs or offer claims
Instagram	<ul style="list-style-type: none"> - €1 per day for impressions - €5 per day for clicks, likes, or views - €40 per day for app installs or offer claims

Figure 11: Social Media Advertising Costs Breakdown

As mentioned above in section 2.4.1 primary research we found that when asking our data set how often they change gyms, 76% said they would never change gyms or only every 3-5 years, so the average member lifetime value would be approx 5 years. We used this to calculate our membership lifetime value (MLV). The customer lifetime value is the benefit we will get from these customers' lifetime of interacting with "GymNow". The "GymNow" monthly membership fee is €40, then considering the average length of time a member stays at their gym is roughly 5 years. We also assume that one out of every four of their members will typically refer our service to a friend (that gives them a referral rate of 25%) (Rougeux, 2020).

$$\text{MLV} = (\text{Monthly Membership Fee}) \times (\text{Average Length of a Membership}) \times (1 + \text{Referral Rate})$$

$$\text{MLV} = (20) \times (60) \times (1 + 0.25)$$

$$\text{MLV} = (20) \times (60) \times (1 + 0.25)$$

$$\text{MLV} = €1,201.25$$

The MLV figure seen above is how much revenue a member of our service would generate while using "GymNow". This can help us understand how much revenue each member makes and allow us to make intelligent marketing decisions. We then looked into the customer acquisition cost, which is the cost of gaining a customer. By adding together our leads and considering our research into various marketing strategies and how much they may cost, GymNow can generate a pretty accurate model of how much its gym marketing spends needs to be in order to operate at its required revenue goals (Heinz, 2020).

- Social media influence post - Cost: €200, leads generated 200 = Cost per lead of €1.
- Social media advertising cost - Cost: €1,200, leads generated 300 = Cost per lead of €15
- Pay per click campaign - Cost: €630, leads generated 200 = Cost per lead of €20
- Referral campaign - Cost: €3750, leads generated 375 = Cost per lead of €10

Add the cost of all the above together GymNow spends €6050 in order to get 1075 leads which is a lead acquisition cost of €5.66.

2.5 Financial Requirements

Discussed below the costs of bringing our idea to the proposed market and maintaining the operation of business over the next three years, the breakdown of each cost are discussed below and are displayed in GyNow's Year 1 - 3 Financial Projection in Section 2.6

2.5.1 Salaries

Developers:

1 Senior Frontend developer 63k (5.25k per month)(Salary: Senior Front End Developer in Dublin, Ireland | Glassdoor, 2020), 2 Junior Frontend Developers 24k (2k per month) [8], 1 senior software engineer 69k (5.75k per month) (Salary: Senior Software Engineer in Dublin, Ireland | Glassdoor, 2020), 1 junior backend developer 32k (2.7k per month) (Salary: Junior Software Engineer in Dublin, Ireland | Glassdoor, 2020). Total of 17,700 per month. We hope that due to hiring senior front and back end developers they will be able to take lead for the junior developers to test their code and develop the app in time for June which is crucial to see our revenue come in. Once revenue does start we plan to include another frontend developer 45k(3.75k per month), a backend developer 55k(4.6k per month) and a senior software tester 51k(4.25k per month) to the Dev team to expand and improve the reliability of the app. We will proceed to add one backend and frontend developer every two months from this point.

Sales:

We will need a sales team to grow our network and collection of signed up gyms, this is a vital part of the idea and the network will need to be in place come launch to ensure the value proposition of offering

multiple gyms throughout the country. We will hire a senior sales representative 41k (3.4k per month)(Salary: Senior Sales Executive in Dublin, Ireland | Glassdoor, 2020) and the two founders 24k(2k per month) will also be part of the sales team. In year 2 GymNow will hire 2 additional sales representatives to increase the GymNow customer base and grow our network of fitness service providers. From our secondary research we found the UK Fitness market has 9.3x as many gym locations at 6,700 compared to 720 in Ireland due to this we will need to increase our sales department by 900%. To tackle this, we will hire a head of sales 78.5k (6.5k per month)(Salary: Head of Sales (2021) Glassdoor UK) halfway through year 2 and 15 more sales uk reps 3 per month at 32.5k(2.7K per month)(Salary: Sales Representative | Glassdoor UK (2021)) and an additional 3 senior sales representative's at 39.2K(3.3K per month)(Salary: Senior Sales Representative | Glassdoor UK (2021))

	Year 1 (€)	Year 2 (€)	Year 3 (€)
Salaries	426,900	1,229,250	2,331,900
Senior Frontend Developer	63,000	63,000	63,000
Junior Frontend Developer	24,000 x 2	24,000 x 2	24,000 x 2
Senior Software Engineer	69,000	69,000	69,000
Junior Backend Developer	32,000	32,000	32,000
Senior Software Tester	51,000	51,000	51,000
Frontend Developers	45,000 x 3	45,000 x 9	45,000
Backend Developers	55,000 x 3	55,000 x 9	55,000 x 15
Irish Senior Sales Rep	41,000	41,000	41,000
Founder as part of Sales Team	24,000 x 2	24,000 x 2	24,000 x 2
Head of Sales		78,500	78,500
Irish Sales Rep		24,000 x 2	24,000 x 2
UK Sales Rep		32,500 x 15	32,500 x 15
UK Senior Sales Rep		39,200 x 3	39,200 x 3

Figure 12: Salary Costs Year 1 - 3

2.5.2 Marketing:

We are giving ourselves a budget starting with 10,000 per month to create and grow our social media platform. We plan to gain a social media presence on Facebook and Instagram with a pay per click and influence partnership campaign. We will also introduce a website in Month 3 and market it in anticipation of the app launch. Marketing costs will ramp up in the month before and month of the launch where we plan to double our influencer partnership team with the hope to gain publicity and most importantly leads. After launch, we plan to include a referral campaign which statistically 1 in every 4 members have been gained by referral. So for every new 4 customers, we will lose €10 in revenue. The 1500 increase in the second month of launch will cost €3750 and a third-month increase of 2000 will cost €5000 when we plan to stop the referral campaign. To enter the UK market our marketing strategy will be to hire a

marketing agency the cost of which would be 14.6K per month for a SEO, 23.7K per month for social media marketing, 15.3K per month for paid social media posts and 26K per month for pay per click marketing this cost has been taken from (*The Average Cost of UK Marketing Agencies in 2020 Adzooma Blog*). Giving a total of 79.6K per month marketing cost which will incur in the last 3 months of year 2 before the UK launch at the start of year 3 and continue throughout year 3.

2.5.3 Insurance:

From our research, we found that the median cost for a workers compensation, Business Owners Policy, General Liability and Professional liability insurance policy is €218 per month. (How much does business insurance cost?, 2020) That equals approximately €180 per month.

2.5.4 Rent:

From our online research of office spaces on property.ie we found that we can achieve around 1,500sq. Feet office space for €1600 euro in this current market in industrial parks on the outskirts of Dublin. (Dublin Commercial Office priced to 350 sorted by price ascending page 35 - Property.ie, 2020) During expansion we used an office space calculator (*Space Calculator (2021)*) for the required sq. feet for 50 employee offices whose breakdown can be found at Appendix G, totalling in 5500 sq. Feet, no exact price listing could be found for this size but by using a €30 per sq. feet average cost for dublin taken from an Dublin office market report in 2019 (*Brochures.bannon.ie. 2021*) totalling to €165,000 to be entered in august of year two.

2.5.5 Equipment:

We plan to purchase €1200 worth of laptops(€1000) and monitors(€100x2) for every developer that we hire. In the first month €1200 x 6 will cost us €6000.

2.5.6 Legal GDPR Consultants:

We have found online that the estimate for a Software Development Company - produce management software for hotels is £8500 that's €9425 based on an optindigo report(How Much Will GDPR Compliance cost?, 2020). As GymNow will be dealing with a lot of customer data which gyms may need access to, it will be vital we have the correct GDPR preparations. This €9425 price includes legal advice, employee training, GDPR consultancy and a website update costing €2000 which we plan to pay again the month of the app launch.

2.5.7 Travel:

For the travel cost, we found it difficult to find online any average mileage a sales rep would travel a month around Ireland. We decided to turn to a neighbour who is a sales rep for tractor motors and who travels all around the country. We envision the need for this kind of travel for our company to gain a network of gyms across the country to be able to deliver our value propositions. His weekly mileage is 1200 kilometers a week, which comes to 4800 a month and approximately 60,000 a year. From this, we can calculate the travel cost per sales rep of 22.23 cent per kilometre taken from Forsa travel and subsistence (Travel and Subsistence - Forsa, 2020). This will equal a cost of €1056 per rep a month.

2.5.8 Loan Repayment:

The loan repayment rates set out by AIB SME fixed rate is for €60,000 over 24 months which will cost €2684 per month.(Business Loans, Interest Rates for Finance and Loans, AIB, 2020)
Price calculation can be found at Appendix H

2.5.9 Amazon Web Services:

We plan to partner up with Amazon Web services to serve as our cloud computing service. They have quite reasonable prices with great services for our developers to base our systems, API and apps of. We decided to select EC2 Services for the 1 year with no upfront cost, the Service will be a linux operating system with a SQL web, it will hold 1000GB of data which we believe will be needed to hold up to 20,000 user data along with a hopeful 250 gyms for our first year. This was calculated using amazon web service calculator.(AWS Pricing Calculator, 2020), (Price Calculation can be found at Appendix I) In Year 2 this is to increase to 2500 GB and with UK expansion to 15,000 GB. (Price Calculation can be found at Appendix J)

2.5.10 Payment Gateway:

For the payment to be delivered from the customer to our Bank account on our app we decided best to pay for a payment gateway to add to security, reliability and customer experience when checking out their payment. We also will not have the manpower or time to create this payment gateway in the startup. We decided on using an on-site payment gateway called Stripe as we didn't want to risk using a redirect payment gateway like PayPal as some members may need to sign up to PayPal and this would detract from the convenience of GymNow. The cost of Stripe is 1.4% + €0.25 per transaction (Pricing & fees | Stripe, 2020) , for the day passes this will equal to $3125 \times €0.25 = €812$ + 1.4% of the average €12.5 transaction = $€0.175 \times 3125 = €548$, for the membership this will cost 2000 membership transactions $\times €0.25 = €500$ and the 1.4% of €40 = $0.56 \times 2000 = €1,120$. Together it will cost us €2480 for our first month of sales and will grow per month as our sales grow.

2.5.11 Utilities:

The average cost of utilities is €1.75 per square ft. With a planned office space of minimum 1500 sq. feet that would cost us €2625 per month and in the 5500 sq. feet office this would cost €9,625

2.5.12 VAT Tax:

VAT tax is calculated as 23% of our sales so for each sale of value propositions according to (*Current VAT rates (2021)*). For the first month of sales, the VAT tax is €1868.75 for VP1 and €9200 for VP2 bringing a total of €11,068.75. This number increases throughout the budget as our sales increase for both Value propositions.

2.5.13 Runway:

We calculate that we have a runway of 12 months, our total burn rate was €1,047,386 which was divided by 12 giving €87,282 average burn rate. €87,282 the overview status total €244,563 gives us a runway of 12.0000229.

	Year 1 (€)	Year 2 (€)	Year 3 (€)
Total Costs	618,543.25	3,190,637.50	18,627,945
Marketing	187,750.00	566,300	1,315,200
Insurance	2,160	2,160	2,160
Rent	19,200	836,200	1,980,000
Equipment	14,400	14,400	14,400
Legal GDPR Consultant	11,425	11,450	
Travel	38,016	149,952	304,128
Loan Repayments	29,524	31,680	
AWS	5,412	7,488	34,944
Payment Gateway	49,035	244,604	2,433,869
Utilities	31,500	66,500	115,500
Sales Vat Tax	232,064.25	1,259,903.50	12,427,744

Figure 13: Non-Salary Cost Year 1 - 3

2.6 3 Year Financial Projection:

Quarterly Financial Report - Q1 2024												Annual Summary & Outlook											
Investment Income			Operating Revenue			Monthly Expenses			Burn Rate			Overview			Cumulative Expenses			Cumulative Income			Status		
Category	Period	Amount	Category	Period	Amount	Category	Period	Amount	Category	Period	Amount	Category	Period	Amount	Category	Period	Amount	Category	Period	Amount	Category	Period	Amount
Family & Friends	JAN	€ 55,000.00	€ 60,000.00	€ 115,000.00	€ 115,000.00	€ 155,000.00	€ 155,000.00	€ 155,000.00	Sales of VP 1	-	€ 11,500.00	Sales of VP 2	-	€ 11,500.00	Sales (Sales)	-	€ 11,500.00	R&D	-	€ 11,500.00	Marketing	-	€ 11,500.00
	FEB	€ -	€ -	€ -	€ -	€ -	€ -	€ -	Salaries (Salaries)	-	€ 11,500.00	Equipment	-	€ 11,500.00	Legal/GDPR Consultants	-	€ 11,500.00	Travel	-	€ 11,500.00	Loan Repayments	-	€ 11,500.00
	MAR	€ -	€ -	€ -	€ -	€ -	€ -	€ -	Salaries (Salaries)	-	€ 11,500.00	Amazon Web Service	-	€ 11,500.00	Payment Gateways	-	€ 11,500.00	Utilities	-	€ 11,500.00	Sales/VAT Tax	-	€ 11,500.00
	APR	€ -	€ -	€ -	€ -	€ -	€ -	€ -	Salaries (Salaries)	-	€ 11,500.00	BURN RATE	€ 46,624.00	€ 43,308.00	€ 54,233.00	€ 48,308.00	€ 48,308.00	€ 70,106.75	€ 94,298.00	€ 99,328.00	€ 128,296.00	€ 144,535.50	€ 149,113.00
	MAY	€ -	€ -	€ -	€ -	€ -	€ -	€ -	Salaries (Salaries)	-	€ 11,500.00	OVERVIEW	€ 44,624.00	€ 89,932.00	€ 144,165.00	€ 192,473.00	€ 240,781.00	€ 310,887.75	€ 405,185.75	€ 504,513.75	€ 625,441.75	€ 753,737.75	€ 899,273.25
	JUN	€ -	€ -	€ -	€ -	€ -	€ -	€ -	Salaries (Salaries)	-	€ 11,500.00	CUMMULATIVE EXPENSES	€ 44,624.00	€ 89,932.00	€ 144,165.00	€ 192,473.00	€ 240,781.00	€ 310,887.75	€ 405,185.75	€ 504,513.75	€ 625,441.75	€ 753,737.75	€ 899,273.25
	JUL	€ -	€ -	€ -	€ -	€ -	€ -	€ -	Salaries (Salaries)	-	€ 11,500.00	CUMMULATIVE INCOME	€ 115,000.00	€ 270,000.00	€ 270,000.00	€ 270,000.00	€ 270,000.00	€ 318,125.00	€ 409,425.00	€ 518,625.00	€ 649,450.00	€ 1,060,450.00	€ 1,129,195.00
INVESTMENT INCOME			OPERATING REVENUE			MONTHLY EXPENSES			BURN RATE			OVERVIEW			CUMMULATIVE EXPENSES			CUMMULATIVE INCOME			STATUS		
Family & Friends			Sales of VP 1			Salaries (Salaries)			Salaries (Sales)			Salaries (Sales)			Marketing			R&D			Legal/GDPR Consultants		
AlB Bank Loan			Sales of VP 2			Equipment			Equipment			Travel			Travel			Amazon Web Service			Payment Gateways		
Stephen Angel			Founder 1 Buy In			Legal/GDPR Consultants			Utilities			Utilities			Utilities			Sales/VAT Tax			Sales/VAT Tax		
Founder 2 Buy In			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS		
INVESTMENT INCOME			OPERATING REVENUE			MONTHLY EXPENSES			BURN RATE			OVERVIEW			CUMMULATIVE EXPENSES			CUMMULATIVE INCOME			STATUS		
Family & Friends			Sales of VP 1			Salaries (Salaries)			Salaries (Sales)			Salaries (Sales)			Marketing			R&D			Legal/GDPR Consultants		
AlB Bank Loan			Sales of VP 2			Equipment			Travel			Travel			Travel			Amazon Web Service			Payment Gateways		
Stephen Angel			Founder 1 Buy In			Legal/GDPR Consultants			Utilities			Utilities			Utilities			Sales/VAT Tax			Sales/VAT Tax		
Founder 2 Buy In			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS		
INVESTMENT INCOME			OPERATING REVENUE			MONTHLY EXPENSES			BURN RATE			OVERVIEW			CUMMULATIVE EXPENSES			CUMMULATIVE INCOME			STATUS		
Family & Friends			Sales of VP 1			Salaries (Salaries)			Salaries (Sales)			Salaries (Sales)			Marketing			R&D			Legal/GDPR Consultants		
AlB Bank Loan			Sales of VP 2			Equipment			Travel			Travel			Travel			Amazon Web Service			Payment Gateways		
Stephen Angel			Founder 1 Buy In			Legal/GDPR Consultants			Utilities			Utilities			Utilities			Sales/VAT Tax			Sales/VAT Tax		
Founder 2 Buy In			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS		
INVESTMENT INCOME			OPERATING REVENUE			MONTHLY EXPENSES			BURN RATE			OVERVIEW			CUMMULATIVE EXPENSES			CUMMULATIVE INCOME			STATUS		
Family & Friends			Sales of VP 1			Salaries (Salaries)			Salaries (Sales)			Salaries (Sales)			Marketing			R&D			Legal/GDPR Consultants		
AlB Bank Loan			Sales of VP 2			Equipment			Travel			Travel			Travel			Amazon Web Service			Payment Gateways		
Stephen Angel			Founder 1 Buy In			Legal/GDPR Consultants			Utilities			Utilities			Utilities			Sales/VAT Tax			Sales/VAT Tax		
Founder 2 Buy In			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS		
INVESTMENT INCOME			OPERATING REVENUE			MONTHLY EXPENSES			BURN RATE			OVERVIEW			CUMMULATIVE EXPENSES			CUMMULATIVE INCOME			STATUS		
Family & Friends			Sales of VP 1			Salaries (Salaries)			Salaries (Sales)			Salaries (Sales)			Marketing			R&D			Legal/GDPR Consultants		
AlB Bank Loan			Sales of VP 2			Equipment			Travel			Travel			Travel			Amazon Web Service			Payment Gateways		
Stephen Angel			Founder 1 Buy In			Legal/GDPR Consultants			Utilities			Utilities			Utilities			Sales/VAT Tax			Sales/VAT Tax		
Founder 2 Buy In			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS		
INVESTMENT INCOME			OPERATING REVENUE			MONTHLY EXPENSES			BURN RATE			OVERVIEW			CUMMULATIVE EXPENSES			CUMMULATIVE INCOME			STATUS		
Family & Friends			Sales of VP 1			Salaries (Salaries)			Salaries (Sales)			Salaries (Sales)			Marketing			R&D			Legal/GDPR Consultants		
AlB Bank Loan			Sales of VP 2			Equipment			Travel			Travel			Travel			Amazon Web Service			Payment Gateways		
Stephen Angel			Founder 1 Buy In			Legal/GDPR Consultants			Utilities			Utilities			Utilities			Sales/VAT Tax			Sales/VAT Tax		
Founder 2 Buy In			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS			TOTALS		
INVESTMENT INCOME			OPERATING REVENUE			MONTHLY EXPENSES			BURN RATE			OVERVIEW			CUMMULATIVE EXPENSES			CUMMULATIVE INCOME			STATUS		
Family & Friends			Sales of VP 1			Salaries (Salaries)			Salaries (Sales)			Salaries (Sales)			Marketing			R&D			Legal/GDPR Consultants		
AlB Bank Loan			Sales of VP 2			Equipment			Travel			Travel			Travel			Amazon Web Service			Payment Gateways		
Stephen Angel			Founder 1 Buy In			Legal/GDPR Consultants			Utilities			Utilities			Utilities			Sales/VAT Tax					

Figure 14: Year 1 Financial Projection Link- Appendix K

INVESTMENT INCOME												YR TOTAL												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC												
€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	
€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	
€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	
€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	€	-	
TOTALS	€	-	€																					
OPERATING REVENUE												YR TOTAL												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC												
Sales of YP 1	€ 12,250.00	€ 13,000.00	€ 13,500.00	€ 14,400.00	€ 14,800.00	€ 15,250.00	€ 15,600.00	€ 16,000.00	€ 16,350.00	€ 16,700.00	€ 17,000.00	€ 17,350.00	€ 17,700.00	€ 17,850.00	€ 17,850.00	€ 17,850.00	€ 17,850.00	€ 17,850.00	€ 17,850.00	€ 17,850.00	€ 17,850.00	€ 17,850.00	€ 17,850.00	€ 17,850.00
Sales of YP 2	€ 247,500.00	€ 280,000.00	€ 312,500.00	€ 345,500.00	€ 379,000.00	€ 415,000.00	€ 450,000.00	€ 490,000.00	€ 535,000.00	€ 570,000.00	€ 615,000.00	€ 660,000.00	€ 660,000.00	€ 660,000.00	€ 660,000.00	€ 660,000.00	€ 660,000.00	€ 660,000.00	€ 660,000.00	€ 660,000.00	€ 660,000.00	€ 660,000.00	€ 660,000.00	
Retained Earnings	€ 244,543.75	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	
TOTALS	€ 504,313.75	€ 293,000.00	€ 326,000.00	€ 359,500.00	€ 393,400.00	€ 429,800.00	€ 465,250.00	€ 505,600.00	€ 551,000.00	€ 586,350.00	€ 631,700.00	€ 677,000.00												
MONTHLY EXPENSES												YR TOTAL												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC												
Salaries (clerk)	€ 55,350.00	€ 55,350.00	€ 63,700.00	€ 63,700.00	€ 72,050.00	€ 72,050.00	€ 80,400.00	€ 80,400.00	€ 88,750.00	€ 88,750.00	€ 97,100.00	€ 97,100.00	€ 88,750.00	€ 88,750.00	€ 88,750.00	€ 88,750.00	€ 88,750.00	€ 88,750.00	€ 88,750.00	€ 88,750.00	€ 88,750.00	€ 88,750.00	€ 88,750.00	
Salaries (sales)	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00	€ 11,400.00		
Marketing	€ 25,000.00	€ 25,000.00	€ 25,000.00	€ 25,000.00	€ 25,000.00	€ 25,000.00	€ 27,500.00	€ 27,500.00	€ 30,000.00	€ 30,000.00	€ 30,000.00	€ 30,000.00	€ 30,000.00	€ 30,000.00	€ 30,000.00	€ 30,000.00	€ 30,000.00	€ 30,000.00	€ 30,000.00	€ 30,000.00	€ 30,000.00	€ 30,000.00		
Insurance	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00	€ 180.00			
Rent	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00	€ 1,600.00			
Equipment	€ 2,400.00	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	
Legal GDPR Consultants	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00	€ 6,336.00		
Travel	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00	€ 2,640.00		
Loan Repayment	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00	€ 624.00		
Amazon Web Service	€ 12,800.00	€ 14,102.00	€ 15,483.00	€ 16,735.00	€ 17,983.00	€ 19,536.00	€ 20,886.00	€ 22,155.00	€ 23,407.00	€ 25,855.00	€ 27,154.00	€ 28,448.00	€ 28,448.00	€ 28,448.00	€ 28,448.00	€ 28,448.00	€ 28,448.00	€ 28,448.00	€ 28,448.00	€ 28,448.00	€ 28,448.00	€ 28,448.00	€ 28,448.00	
Payment Gateways	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00	€ 2,625.00		
Utilities	€ 59,742.50	€ 67,390.00	€ 74,980.00	€ 82,570.00	€ 90,482.00	€ 98,854.00	€ 107,007.00	€ 116,288.00	€ 126,230.00	€ 134,848.00	€ 145,290.00	€ 155,710.00	€ 155,710.00	€ 155,710.00	€ 155,710.00	€ 155,710.00	€ 155,710.00	€ 155,710.00	€ 155,710.00	€ 155,710.00	€ 155,710.00	€ 155,710.00		
Sales (Vat Tax)	€ 180,737.50	€ 187,247.00	€ 206,968.00	€ 213,410.00	€ 233,320.00	€ 243,345.00	€ 281,366.00	€ 311,752.00	€ 475,540.00	€ 511,752.00	€ 614,854.00	€ 662,407.00	€ 662,407.00	€ 662,407.00	€ 662,407.00	€ 662,407.00	€ 662,407.00	€ 662,407.00	€ 662,407.00	€ 662,407.00	€ 662,407.00	€ 662,407.00		
BURN RATE	€																							
OVERVIEW												YR TOTAL												
CUMULATIVE EXPENSES	€ 180,767.50	€ 348,004.50	€ 574,972.50	€ 788,382.50	€ 1,021,702.50	€ 1,265,047.50	€ 1,546,413.50	€ 2,021,943.50	€ 2,533,705.50	€ 3,148,559.50	€ 3,810,946.50	€ 4,475,237.50												
CUMULATIVE INCOME	€ 504,313.75	€ 797,313.75	€ 1,123,313.75	€ 1,482,813.75	€ 1,876,213.75	€ 2,206,013.75	€ 2,771,268.75	€ 3,276,843.75	€ 3,827,843.75	€ 4,414,213.75	€ 5,045,913.75	€ 5,722,913.75												
STATUS	€ 323,566.25	€ 429,309.25	€ 548,341.25	€ 694,431.25	€ 854,511.25	€ 1,040,946.25	€ 1,224,850.25	€ 1,256,910.25	€ 1,294,568.25	€ 1,294,947.25	€ 1,294,947.25	€ 1,294,947.25												

Figure 15: Year 2 Financial Projection
Link- Appendix L

INVESTMENT INCOME												DEC		
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV		YR TOTAL	
€	-	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	
€	-	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	
€	-	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	
TOTALS	€ -													

OPERATING REVENUE												DEC		
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV		YR TOTAL	
Sales of VP 1	€ 138,868.00	€ 143,728.00	€ 148,039.00	€ 153,220.00	€ 158,582.00	€ 164,132.00	€ 169,876.00	€ 175,821.00	€ 181,974.00	€ 188,343.00	€ 194,235.00	€ 201,757.00	€ 2,019,275.00	
Sales of VP 2	€ 2,907,600.00	€ 3,111,132.00	€ 3,328,911.00	€ 3,561,934.00	€ 3,811,269.00	€ 4,078,057.00	€ 4,363,520.00	€ 4,668,966.00	€ 4,995,793.00	€ 5,345,498.00	€ 5,719,682.00	€ 6,120,059.00	€ 52,012,421.00	
Retained Earnings	€ 1,247,676.25	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ 1,247,676.25	
€	-	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	
TOTALS	€ 4,294,144.25	€ 3,254,860.00	€ 3,476,950.00	€ 3,715,154.00	€ 3,969,851.00	€ 4,242,189.00	€ 4,533,396.00	€ 4,844,787.00	€ 5,177,767.00	€ 5,533,841.00	€ 5,914,617.00	€ 6,321,816.00	€ 55,279,372.25	

MONTHLY EXPENSES												DEC		
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV		YR TOTAL	
Salaries (dev)	€ 105,450.00	€ 105,450.00	€ 113,800.00	€ 113,800.00	€ 122,150.00	€ 122,150.00	€ 130,500.00	€ 130,500.00	€ 138,850.00	€ 138,850.00	€ 147,200.00	€ 147,200.00	€ 1,515,900.00	
Salelies (sales)	€ 68,000.00	€ 68,000.00	€ 68,000.00	€ 68,000.00	€ 68,000.00	€ 68,000.00	€ 68,000.00	€ 68,000.00	€ 68,000.00	€ 68,000.00	€ 68,000.00	€ 68,000.00	€ 816,000.00	
Marketing	€ 105,600.00	€ 109,600.00	€ 109,600.00	€ 109,600.00	€ 109,600.00	€ 109,600.00	€ 109,600.00	€ 109,600.00	€ 109,600.00	€ 109,600.00	€ 109,600.00	€ 109,600.00	€ 1,315,200.00	
Insurance	€ 180,00	€ 180,00	€ 180,00	€ 180,00	€ 180,00	€ 180,00	€ 180,00	€ 180,00	€ 180,00	€ 180,00	€ 180,00	€ 180,00	€ 2,160.00	
Rent	€ 165,000.00	€ 165,000.00	€ 165,000.00	€ 165,000.00	€ 165,000.00	€ 165,000.00	€ 165,000.00	€ 165,000.00	€ 165,000.00	€ 165,000.00	€ 165,000.00	€ 165,000.00	€ 1,980,000.00	
Equipment	€ 2,400.00	€ -	€ 2,400.00	€ -	€ 2,400.00	€ -	€ 2,400.00	€ -	€ 2,400.00	€ -	€ 2,400.00	€ -	€ 14,400.00	
Travel	€ 23,344.00	€ 25,344.00	€ 25,344.00	€ 25,344.00	€ 25,344.00	€ 25,344.00	€ 25,344.00	€ 25,344.00	€ 25,344.00	€ 25,344.00	€ 25,344.00	€ 25,344.00	€ 304,128.00	
Amazon Web Service	€ 2,912.00	€ 2,912.00	€ 2,912.00	€ 2,912.00	€ 2,912.00	€ 2,912.00	€ 2,912.00	€ 2,912.00	€ 2,912.00	€ 2,912.00	€ 2,912.00	€ 2,912.00	€ 34,944.00	
Payment Gateways	€ 119,328.00	€ 130,067.00	€ 141,773.00	€ 154,917.00	€ 169,324.00	€ 185,071.00	€ 202,282.00	€ 221,094.00	€ 241,655.00	€ 264,128.00	€ 288,691.00	€ 315,539.00	€ 2,433,865.00	
Utilities	€ 9,625.00	€ 9,625.00	€ 9,625.00	€ 9,625.00	€ 9,625.00	€ 9,625.00	€ 9,625.00	€ 9,625.00	€ 9,625.00	€ 9,625.00	€ 9,625.00	€ 9,625.00	€ 115,500.00	
Sales Vat Tax	€ 700,687.00	€ 748,617.00	€ 799,698.00	€ 854,945.00	€ 913,065.00	€ 975,703.00	€ 1,042,681.00	€ 1,114,301.00	€ 1,190,886.00	€ 1,272,783.00	€ 1,360,361.00	€ 1,454,017.00	€ 12,427,744.00	
BURN RATE	€ 1,308,526.00	€ 1,364,795.00	€ 1,438,332.00	€ 1,504,323.00	€ 1,587,600.00	€ 1,663,585.00	€ 1,758,524.00	€ 1,846,556.00	€ 1,934,452.00	€ 2,026,422.00	€ 2,179,313.00	€ 2,297,417.00	€ 20,759,845.00	

OVERVIEW												DEC		
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV		DEC	
CUMMULATIVE EXPENSES	€ 1,306,524.00	€ 1,673,321.00	€ 4,111,53.00	€ 5,615,976.00	€ 7,023,576.00	€ 8,867,161.00	€ 10,525,085.00	€ 12,472,241.00	€ 14,426,623.00	€ 16,483,115.00	€ 18,642,288.00	€ 20,759,845.00		
CUMMULATIVE INCOME	€ 4,294,144.25	€ 7,549,004.25	€ 11,025,564.25	€ 14,741,108.25	€ 18,710,959.25	€ 22,953,148.25	€ 27,486,544.25	€ 32,331,331.25	€ 37,509,998.25	€ 43,042,939.25	€ 48,957,556.25	€ 55,279,372.25		
STATUS	€ 2,985,618.25	€ 4,875,683.25	€ 6,914,301.25	€ 11,507,383.25	€ 11,525,132.25	€ 16,860,859.25	€ 14,085,987.25	€ 19,859,090.25	€ 23,082,405.25	€ 26,559,824.25	€ 30,295,128.25	€ 34,319,527.25		

Figure 16: Year 3 Financial Projection

Link- Appendix M

2.7 Business Process Model

This BPMN diagram represents the booking process on the GymNow application, it follows the user from logging onto the system to finally receiving a confirmation which completes the process and displays all the steps and differing gateways in between.

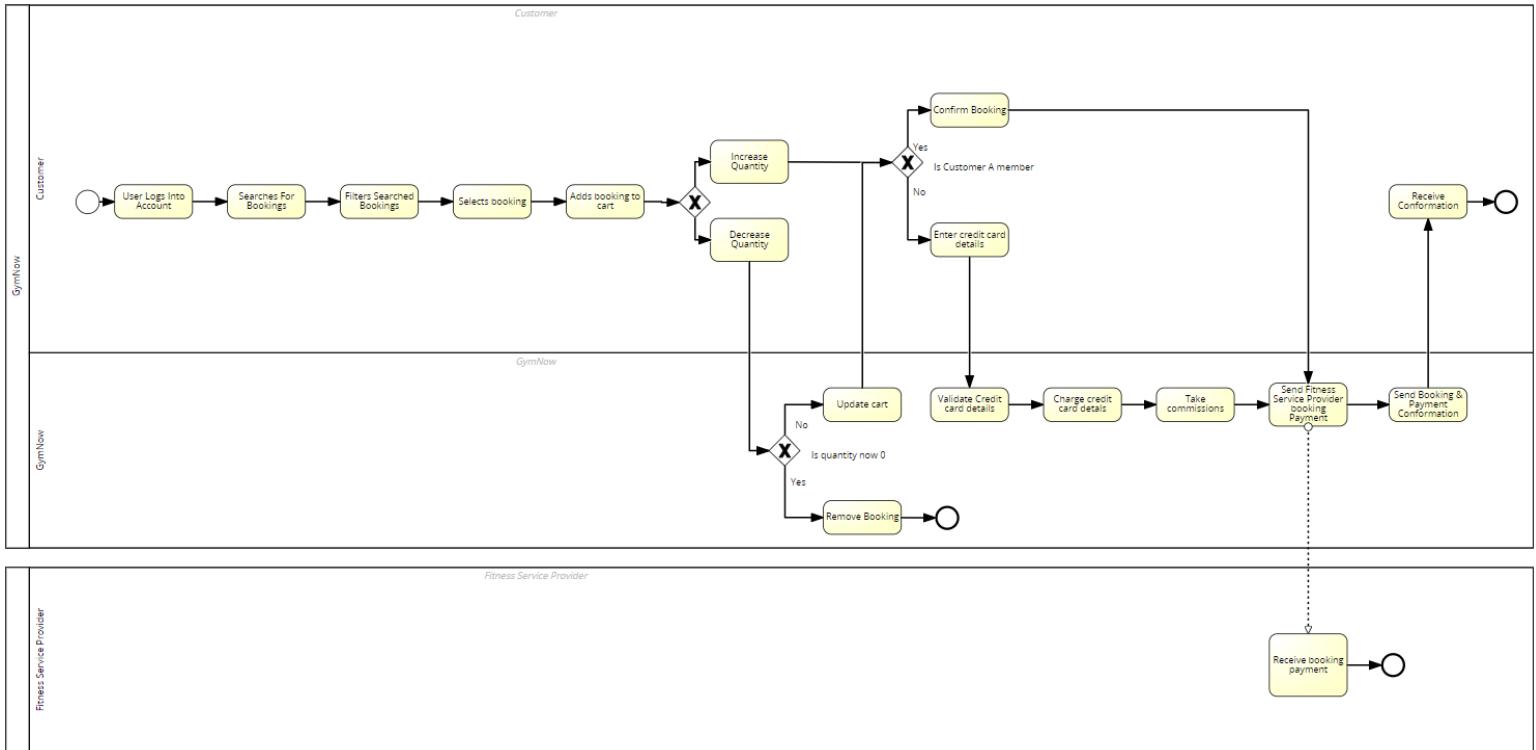


Figure 17: BPMN Booking Process

This BPMN diagram describes the membership process completed by any customer to become a GymNow membership holder and obtain the benefits of this subscription as laid out in section Value Propositions 2.3.2

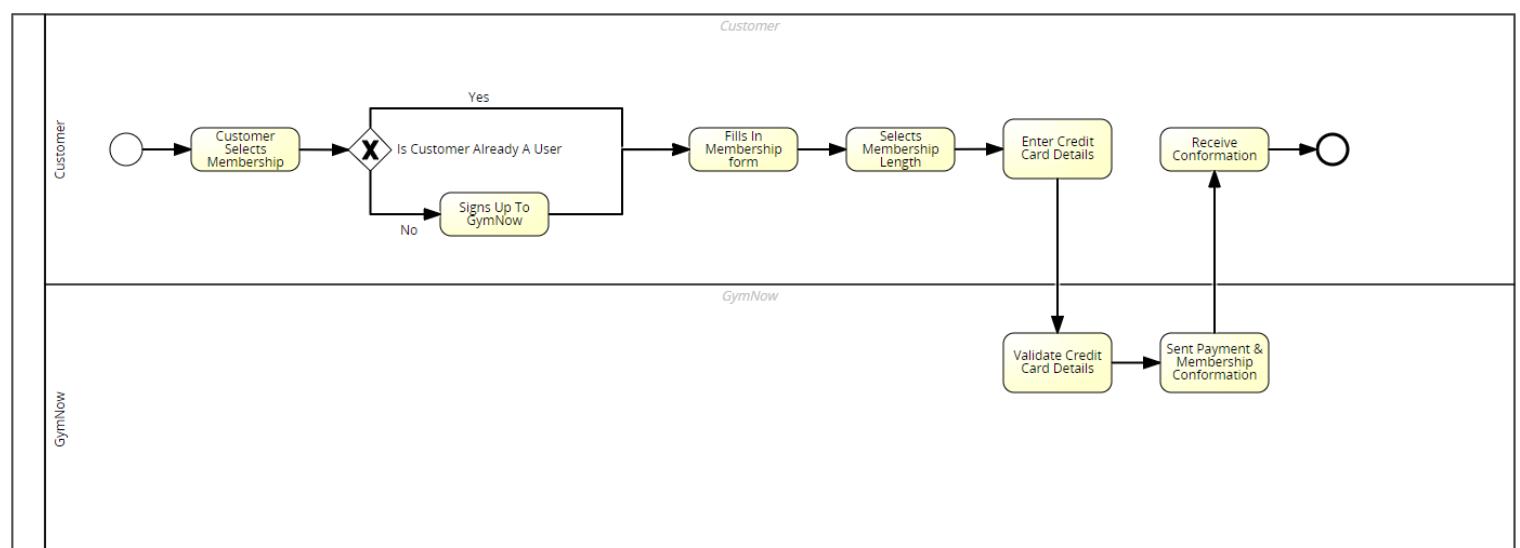


Figure 18: BPMN Membership Process

In this BPMN diagram we illustrate the process of any Fitness Service Provider updating their business info and advertisement page on the GymNow application, this is a simple process but one that is quite important to outline its simplicity and ease of use to Fitness Service Providers who we may want to join our network.

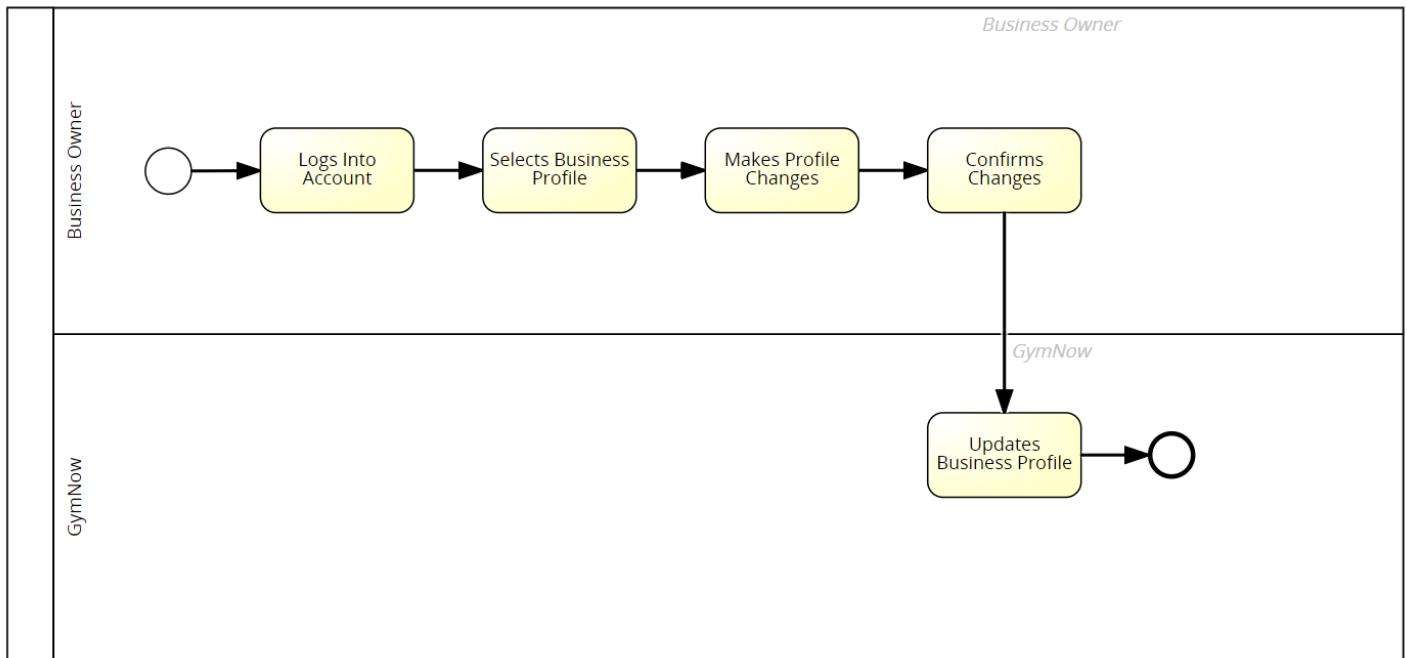


Figure 19: Update Business Profile Process

3.0 Technical Delivery

3.1 Functional Specification

3.1.2 Product/System Function

Below is our list of the product/system functions, these are the core functional requirements of the system which addresses the main functionality of the system. Each system function has its own individual function for the user and the system, dependencies and technical issues which are discussed further in Section 3.2 Functional Requirements

Registering

The user has to register their information to GymNow in order to make any bookings. Users need to create a username, password and enter their first and last name, email and phone number.

Login

This function will allow users to login to their own account securely, here they can then make bookings, view and cancel any confirmed bookings.

Search Location

The user will have to enter a location into a search bar. This will return all available booking in the given location for both gym, personal trainers and fitness classes.

Filtering Search

Some locations may return an excess of available bookings, in this instance users can filter their search to specific fitness categories to find for example only gym's, only PT's and only yoga or only plates that will aid customers to find their wanted advertisements more quickly.

Enrol your business

Users who wish to advertise their services can apply through an application which will be sent to the GymNow team for review. GymNow's team will then contact the requesting users on successful applications for further details and also any unsuccessful applications with reasons why.

Updating Advertisement

User's logged into a business account can update the advertisement information being displayed on our apps such as pricing, pictures, contact information and descriptions.

Booking Fitness Service Provider

Users can select their desired bookings/classes and add or subtract quantities, this will create a booking confirmation on the system which can be then viewed in the user's wallet.

Booking Payment

After selection user's need to pay for their bookings if they do not hold a GymNow membership, once payment has been completed the booking confirmation will be available in the user's wallet

View Bookings

Here a user can view all bookings conformations along with an option to cancel any bookings.

Cancel Bookings

If a user wishes to cancel their booking made on the app this can be completed within their wallet.

Membership Payment

Here a user can opt into a monthly membership by registering to GymNow membership and completing payment, this will give users access to all partnered gyms under one monthly rate.

Database

The database will hold the user, fitness service providers and bookings data, this needs to be connected to our site to update, retrieve, process and display this data to the users.

3.1.3 Operational Scenarios

When entering our website users can select "book now" to browse fitness service providers bookings. This will return all gym's PT's and fitness instructors that are available on GymNow today. To find the right time and booking user's can filter location and booking category i.e. Laois and Personal Trainer. Users will be presented their filtered results, these results will display time, price and stared review for quick compassion for the user. When selecting a booking if not already done so users will be prompted to login/sign up. If they select sign up the user will be asked to enter some information i.e. a username, password, first name, last name and email address. If the user selects log in they will be requested to enter their username and password, If log in details are entered incorrectly an error message will appear until the correct details have been entered by the user. The user has now the availability to make a booking, the user will be requested to pay for this booking to confirm it. To view any booking confirmations the user can click Wallet, this will display all their current bookings. To cancel a booking the user will enter their wallet and select their desired booking they wish to cancel then click cancel. This will remove these bookings from their wallet. If a user is a Fitness service provider and wishes to enrol their business to GymNow they can click enrol business, this will display an application form, when all required details have been entered the user can submit the application. This will be sent and reviewed by a GymNow employee and the user will be contacted with a response. There will be a contact us page for any issues or questions users may have.

3.1.4 Constraints

- **Covid-19 Pandemic:** Due to the current pandemic and government guidelines we had to resort to communicating mostly through Zoom meetings and email, which was quite challenging in the beginning as we were use to face to face communication in the DCU computing labs or library when

carrying out assignments. We also found it difficult to carry out our primary research with business owners as many facilities were closed with the lockdown in Ireland, therefore all our communication with business owners was over the phone or through email. We also had to utilize our own equipment and not the DCU lab computers which were opening at a higher level with better processors, this sometimes hindered our work as our own equipment may be slow or break down.

- **Time:** Considering the final documentation was due on the 7th of May and our first exam was starting on the 10th of May, we found it difficult in finishing the assignment to manage our time to also study for our final two exams on the 10th and 14th of May.
- **Usability:** While constructing our website and is certainly the case with the future application, we had to ensure to make the booking process as simple and manageable as possible creating a simple user interface.
- **Fitness Industry Knowledge:** Our knowledge of the fitness industry was quite limited at the beginning of the assignment as neither of us have any past experience of working in the industry, so we relied heavily on our primary and secondary research, which was also time-consuming, to grow our understanding of an ever-changing and complex market.
- **Django/Python:** We had little experience in constructing a mobile application and limited knowledge in constructing and deploying a prototype website, where we were working with some web-based frameworks and coding languages for the first time.

3.2 Functional Requirements

3.2.1 Register

- **Description:**
This is the first step for any GymNow users in the process of making a booking. Users can access registration through the login page where it reads “Don't have an account? Sign Up” or a redirect URL when browsing bookings and not being logged in. This will bring users to a registration form where they are requested to enter a username and password, their full name, email address and phone number.
- **Criticality:**
This is an essential functionality to our system, It allows us to present the value of comparing and booking on one convenient platform and upsell our “GymNow” monthly membership to already registered users. GymNow also has their contact details and can reliably and securely allocate bookings they have made to their registered account.
- **Technical issues:**
The registration form will be designed and developed using HTML and CSS, it will be hyperlinked from the login page where it reads “Don't have an account?”
“Sign Up” and from booking buttons of non-logged-in users. These kinks need to be redirected to the correct URL and also be able to differentiate between a logged in and non-logged in user, a possible issue is redirecting already logged in users back to the registration page. The forms will be handled by python functions in the Django framework. The data entered into the form will create new entries in the PostgreSQL, under the user table, mapping the wrong data to the wrong column in the database will cause complete failures when this data is retrieved in other functions such as login and view bookings.

- **Dependencies:**

Registration function is dependent on a connection between the website and a relational database. This function needs a location to store the data that is being entered by the user.

3.2.2 Log In

- **Description:**

This login script requests the application user for their account username and password, the user then inputs this information when logging into their account, this is where we utilize our key resource which is the customer database in looking for the relevant user who is attempting to login. Error handling message as in place to aid users with an issues in this functionality

- **Criticality:**

This is an essential functionality of our service as it allows us to keep track of the users on our platform and enables the users to make a booking.

- **Technical issues:**

Our application may need some form of security to protect a users account from unauthorized access such as two-factor authentication.

- **Dependencies:**

This whole function depends on the previous function of users actually registering to use our platform, before they can be able to log in.

3.2.3 Search Location

- **Description:**

Users are presented with a search bar on the bookings page in which location of counties in Ireland can be entered. This will return a list of fitness service providers who have available bookings in that area and a link to their business page along with booking details i.e. gym, PT etc., location, time, price and star rating.

- **Criticality:**

This is another key functionality of the website and is essential to the overall concept of the application of searching for Fitness service providers comparing these results to make a quick and informed decision on a time and place that suits them.

- **Technical issues:**

This search bar will be designed using a bootstrap search bar along with Django filters, this was used for the possible issues of users misspelling locations, we can filter the locations to contain the location rather than an exact search. Other potential issues may occur when retrieving the available bookings if the location foreign key is not correctly placed in the bookings table in the database. This can lead to bookings from incorrect locations being placed in the returned list or possibly no available bookings being returned for the location.

- **Dependencies:**

This function is dependent on a SQLite3 containing a Locations table, Bookings table to return results when searches are entered.

3.2.4 Filtering Search

- **Description:**

When users are searching for a gym or class using our application one of the functions involved in the search gym location is filtering these searches after a user has specified the location. These searches can be filtered again by the different forms of bookings such as category i.e PT, class, gym etc.

- **Criticality:**

This is key for efficiency during a users experience with our application when using the searching for a booking. Without this functionality users would have to browse through a huge number of returned search results on gyms, PTs or classes when they may just be looking for information on one. This function attempts to fast track users to their end goal of making a booking.

- **Technical issues:**

Some issues that may arise with this function would be that not all the relevant filtered choices are displayed to the user and also to ensure that no search result is somehow lost in the filter that should be displayed.

- **Dependencies:**

This function is dependent on the search location feature mentioned above.

3.2.5 Enroll Your Business

- **Description:**

Users can register their service or business with "GymNow" by clicking the "Enroll your business" hyperlink in the navbar or the "Learn How" hyperlink button in the carousel slide 3 on the homepage. Here the business can apply to join the GymNow network by completing the quick application, the form will ask for Name, Email, Telephone number, Business Name, Business Address and Your message. This will then be sent to GymNow for review by a member of our team. If the applicant is successful, a member of our team will be in contact to get the business set up on our platform so they can display their service on "GymNow"

- **Criticality:**

This function is essential to ensure we can grow our network of gym's, PT;s and fitness instructors. This will help grow our network of fitness service providers faster and cost-effectively as we can still onboard the businesses our sales team may have missed. This is critical as the more fitness service providers "GymNow" obtains the more choice and variety we can offer our customers and the better the service we can provide, resulting in additional customers and therefore revenue. Application review is also critical so we can ensure safe and qualified service providers for the customers of our platform.

- **Technical issues:**

Ensuring the validity of the content added by applicants will be a key technical issue, in the future to add functionality we may request a scanning feature of certificates to be provided, developing such a tool may cause issues. To reduce the level of unsuccessful applicants and a negative experience for business owners it is vital what information goes where in the form is made abundantly clear.

- **Dependencies:**

This function is dependent on the register and log in function, as users must be registered and logged in for the "enroll your business" page to be displayed to the user.

3.2.6 Updating Business Profile

- **Description:**

Here a business user will be able to add changes to their business profile. They can add new photos, delete old photos, add new service descriptions, These updates will be displayed on their advertisements on GymNow.

- **Criticality:**

This function is critical for business users, as their circumstances may change day to day like their available dates, times and prices can vary. Also to keep their advertisement looking fresh it will be key to provide this aspect to the users.

- **Technical issues:**

Developing a process which is simple and quick for any to input these changes with little to no technical skills may be challenging, ensuring that the process will then automatically update these changes upon the site and also change the data within the database to represent the user changes may cause issues.

- **Dependencies:**

This function is again dependent on a user being registered and logged in on a business account. This function is also dependent on this logged account being linked to an advertisements table in SQLite3.

3.2.7 Book Gym/Class

- **Description:**

In this function after searching and finding their desired service users can select and make a booking. After payment, this booking will then be displayed on the user's wallet.

- **Criticality:**

This is the core functionality of the entire GymNow project idea, it will allow users to book services after they have made their comparisons and chosen what suits them the best. Having this function allows GymNow to offer a convenient end to end process which once used users are likely to replicate. This function also allows GymNow to take in commission and generate revenue.

- **Technical issues:**

Ensuring all bookings are only added to a users wallet after successful transactions, tracking these bookings when added to their cart and changing the quantity of bookings which will then be represented in their wallet.

- **Dependencies:**

This function is dependent on a user being logged in, a location having been searched, and a connection between the site and the bookings table in SQLite3.

3.2.8 Booking Payment

- **Description:**

Once a booking has been selected by a user they will then be requested to pay for this booking on the app. The user will enter their debit/ credit card details and if payment is successful, the booking will be confirmed to that user and a confirmation will be created and placed in the user's wallet.

- **Criticality:**

This function is critical to ensure the production of revenue from the Company.

- **Technical issues:**

This function may introduce issues with the implementation and incorporation of a payment gateway, ensuring reliability, security and traceability will be key issues that need to be addressed in this function (Such issues were too much to overcome for our MVP).

- **Dependencies:**

This function can only be completed after a user has completed the logged on process, search a location and then made a booking.

3.2.9 View Booking

- **Description:**

When a user has made and paid for a booking, a confirmation of their booking will be displayed in their wallet. This function allows them to access their bookings by clicking "My Wallet". This will allow users to see their confirmation and display this when arriving at a gym, PT or fitness instructor. The user will also be given the option to delete their bookings in their wallet.

- **Criticality:**

This function is required so users can see their bookings within the app, this ensures we maintain an end to end process keeping the user on the app in order to display more advertisement and also this removes the pain of searching through emails for confirmations improving customer satisfaction. Using a QR code will allow user's and employee's to quickly confirm booking on arrival to bookings generating ease of use a major customer satisfaction on both sides.

- **Technical issues:**

Incorporation of a QR code generator which reliably displays the correct conformation data when scanned may prove difficult for both potential costs and time constraints. (For our MVP creation of a working QR code for all bookings proved to much of an issue for us to overcome with our constraints, an alternative booking detail confirmation was used as an alternative)

- **Dependencies:**

This function is dependent on the Logged in, make booking and booking payment functions before view bookings can be invoked. It will also be dependent on both the user's table and booking table within SQLite3.

3.2.10 Cancel Booking

- **Description:**

This function gives the user the ability to cancel a booking that has been made on our platform. Cancelling a booking will involve selecting a booking within their wallet and clicking cancel, the user will then be able to be refunded for the booking once the cancellation has been made within our 2-hour policy. The business owner will then be informed of this cancellation and the booking will be added onto the system as available bookings to be rebooked by another user.

- **Criticality:**

To ensure a positive customer relationship a cancellation function is vital for GymNow, as often the case scenario's present themselves which may cause users to be unable to attend a booking they have made. This can occur very very frequently and such many cancellations may have to be made, an inability to do so and still being in charge will create an extremely negative experience for users and will be unlikely to keep their business.

- **Technical issues:**

The system will need to automatically send repayments to users upon successful cancellation, along with the ability to remove bookings from booked and place them back available for re-booking, this need to be done reliably to maintain successful paid bookings and added business for the service provider customers. (As a payment gateway was not incorporated actual refundents do not take place on the MVP)

- **Dependencies:**

This function is dependent on the user completing the booking process and viewing their bookings.

3.2.11 Purchase Membership

- **Description:**

This function allows users to purchase the up-sell membership to GymNow, giving access to all partnered gyms under one monthly membership cost. This will remove the payment process required after making a booking. Purchasing Membership will require the user to select the length of membership and enter their debit/credit card details similar to the payment process for booking.

- **Criticality:**

This function is critical to GymNow revenue as it is our main revenue stream.

- **Technical issues:**

As previously stated, ensuring a secure and reliable payment system is a key technical issue to be addressed in this function.(Again as stated previously in the MVP no actual money is being transferred). Differentiating between a normal user and a member may cause development issues.

- **Dependencies:**

This function requires the registration and login process to be completed.

3.2.12 Database

- **Description:**

All user data including registration details and login details along with all booking and advertisement details need to be stored in an organized database for quick and convenient access. Any updates to make booking or advertisements needs to update the details with the database also.

- **Criticality:**

For the system to have good performance and be useful for both customers and developers it is essential that the data can be stored, accessed and updated quickly and reliably.

- **Technical issues:**

In order to access and query the database, a python script within a Django framework will need to be developed with the ability to also edit, update and delete data from tables.

- **Dependencies:**

Database Function is dependent on a connection between GymNow application and website and SQLite3.

3.3 Software Architecture

3.3.1 System Architecture Diagram

GymNow software architecture will be an adaptation of the MVC architecture pattern called MVT. With the use of the Django framework, the code needed to fetch data from the database and mapping it to URLs is handled by the Django framework so this component can be removed. This then leaves the system with three components that make up the system architecture.

Model - This component is responsible for dealing with the system's data and each business and user's data stored in the database. The model will be queried from the view, translate these queries to read or write commands, receive these results and return these results to the view component.

View - The view component deals with the inputs made by the user on the application. The view component takes these inputs and then decides what pages and data should be displayed. The view will then query the model for the data, capture the response and then send this response to the template component.

Template - The template component specifies how the data will be presented to the user. It takes the results from the view, applies its styling and then sends it back to the view who renders the template response.

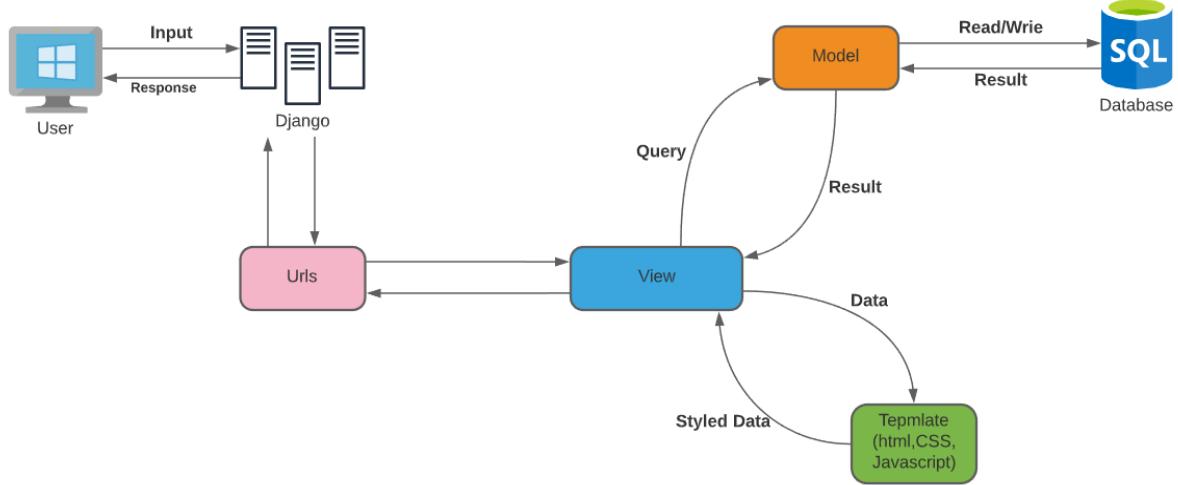


Figure 20: GymNow Model-View-Template Architecture

3.4 High-Level Design

3.4.1 Functional Layout

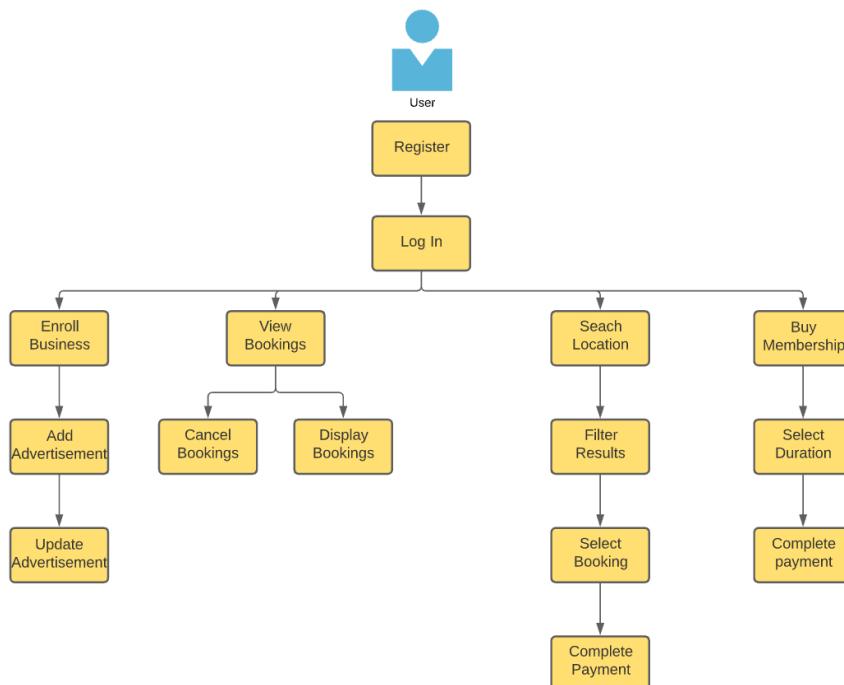


Figure 21 : GymNow User Functional Layout

3.4.2 Logical Data Model

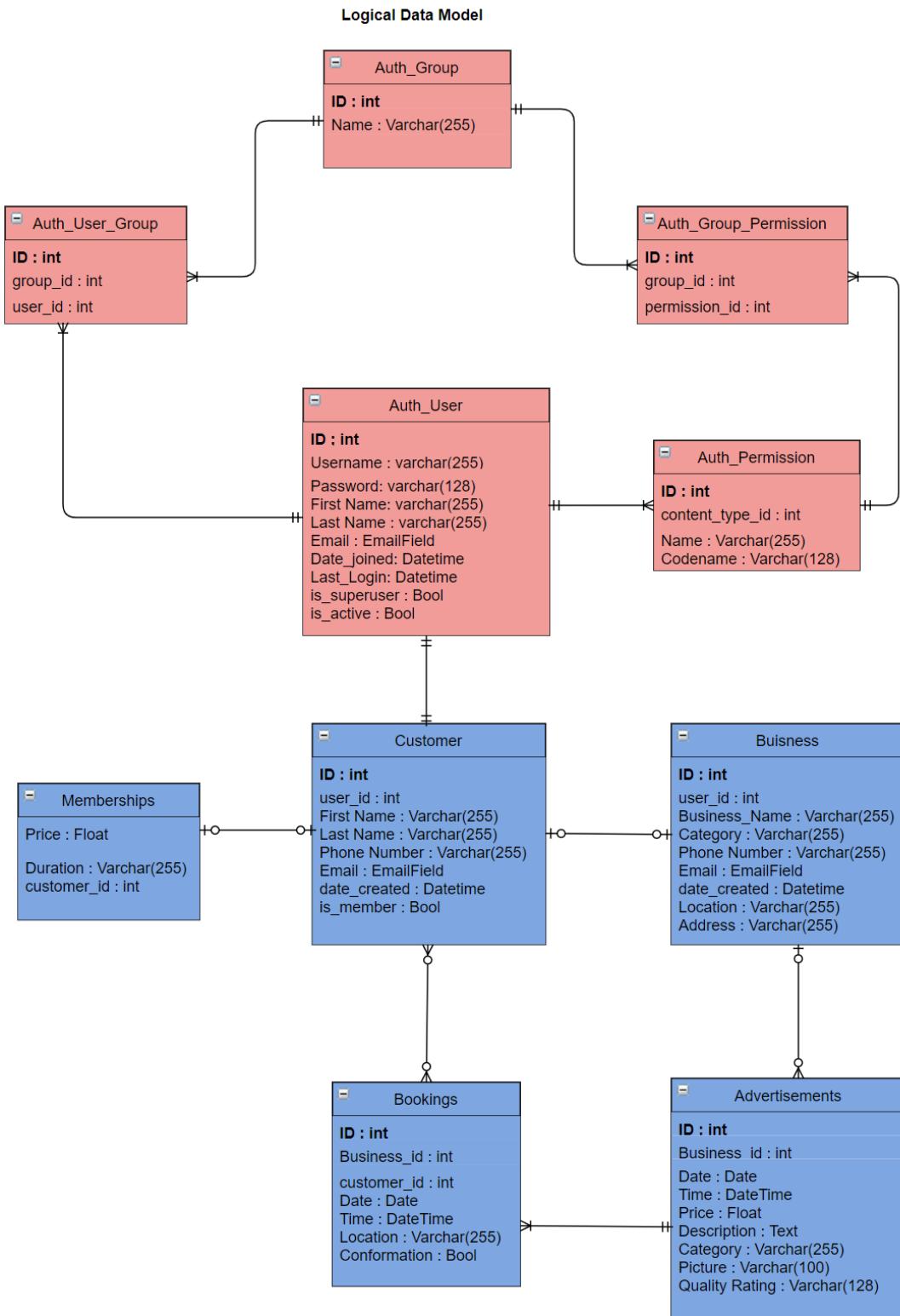


Figure 21: Logical Data Model

3.4.3 UML Use Case Diagram

Below is our UML use case diagram representing the two actors taken from our multi sided platform, the diagram displays the actions they share and also those that differ with an aim to display how in many actions the Fitness service provider may also be a customer to another Fitness Service provider.

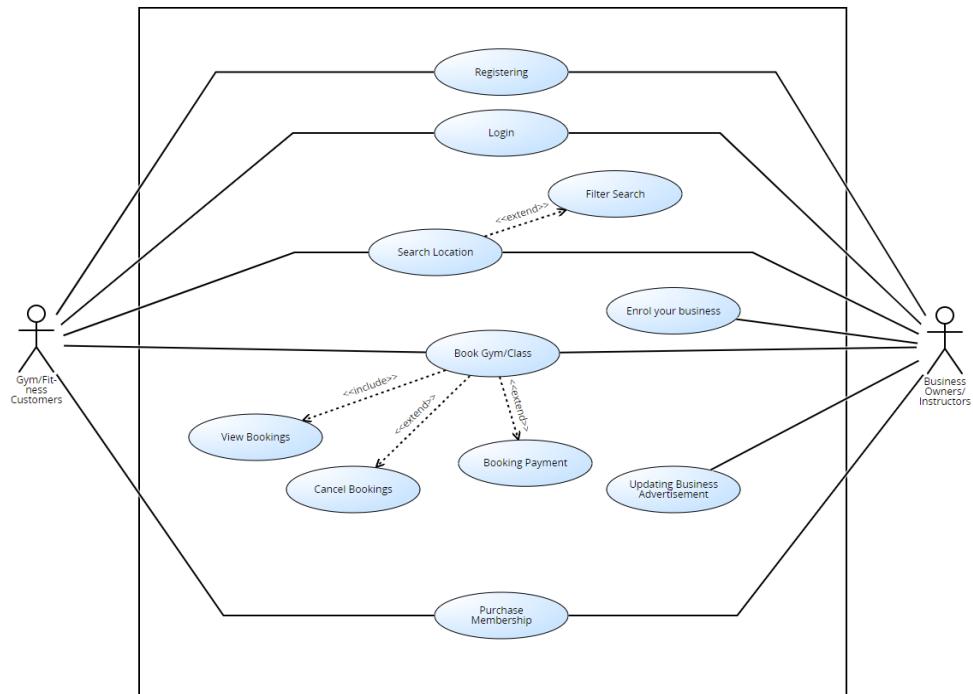


Figure 22: UML Use Case Diagram

3.4.4 Data Flow Diagram(DFD)

3.4.4.1 Level 0 DFD

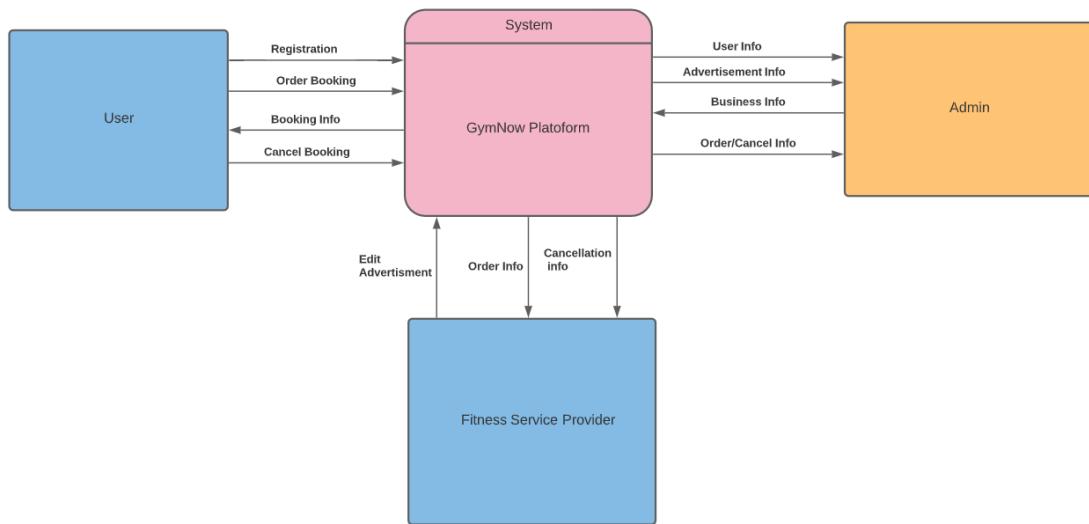


Figure 23: Data Flow Diagram Level 0

3.4.2.2 Level 1 DFD

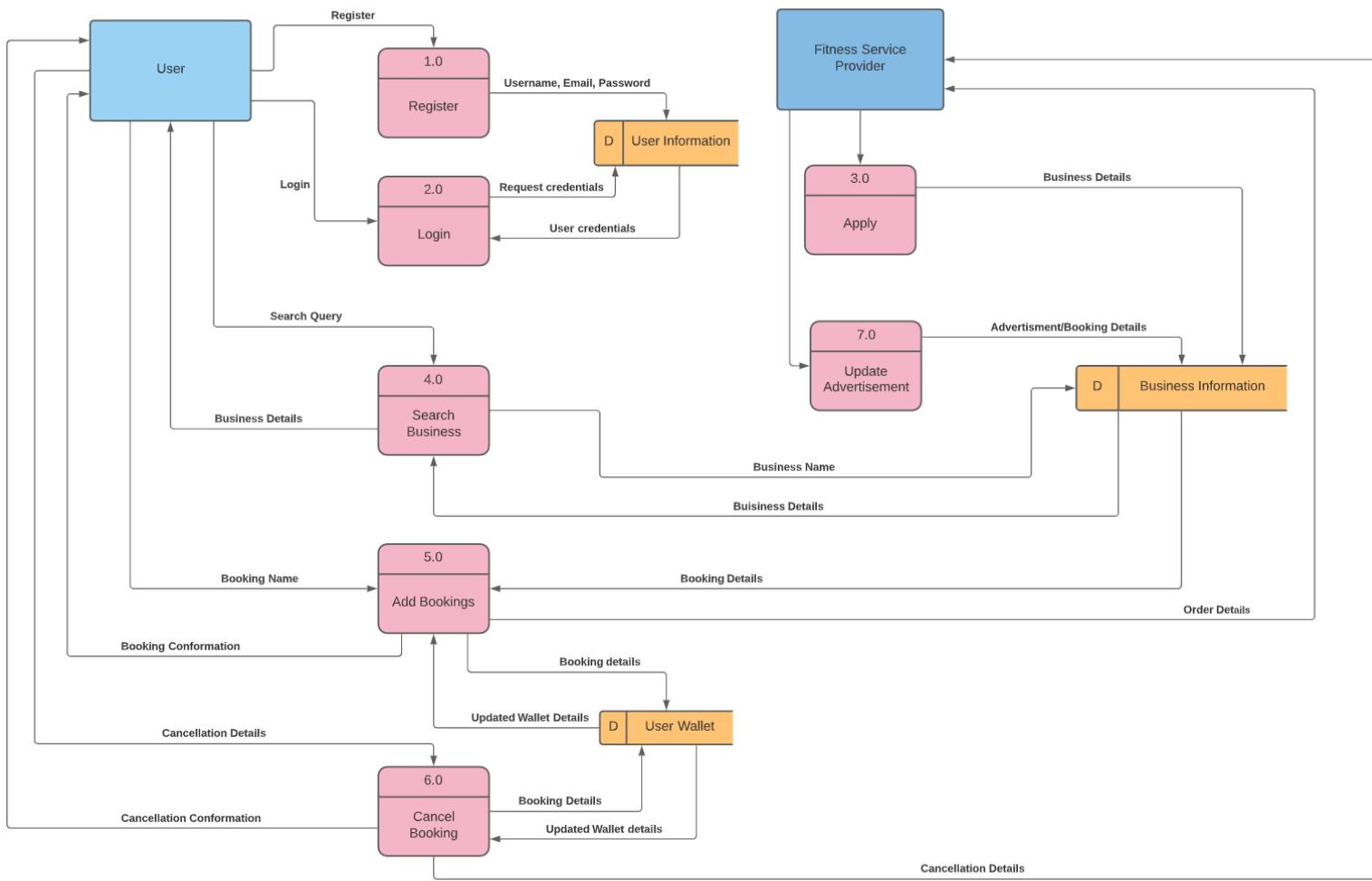


Figure 24: Data Flow Diagram Level 1

3.4.4.3 Level 2 DFD

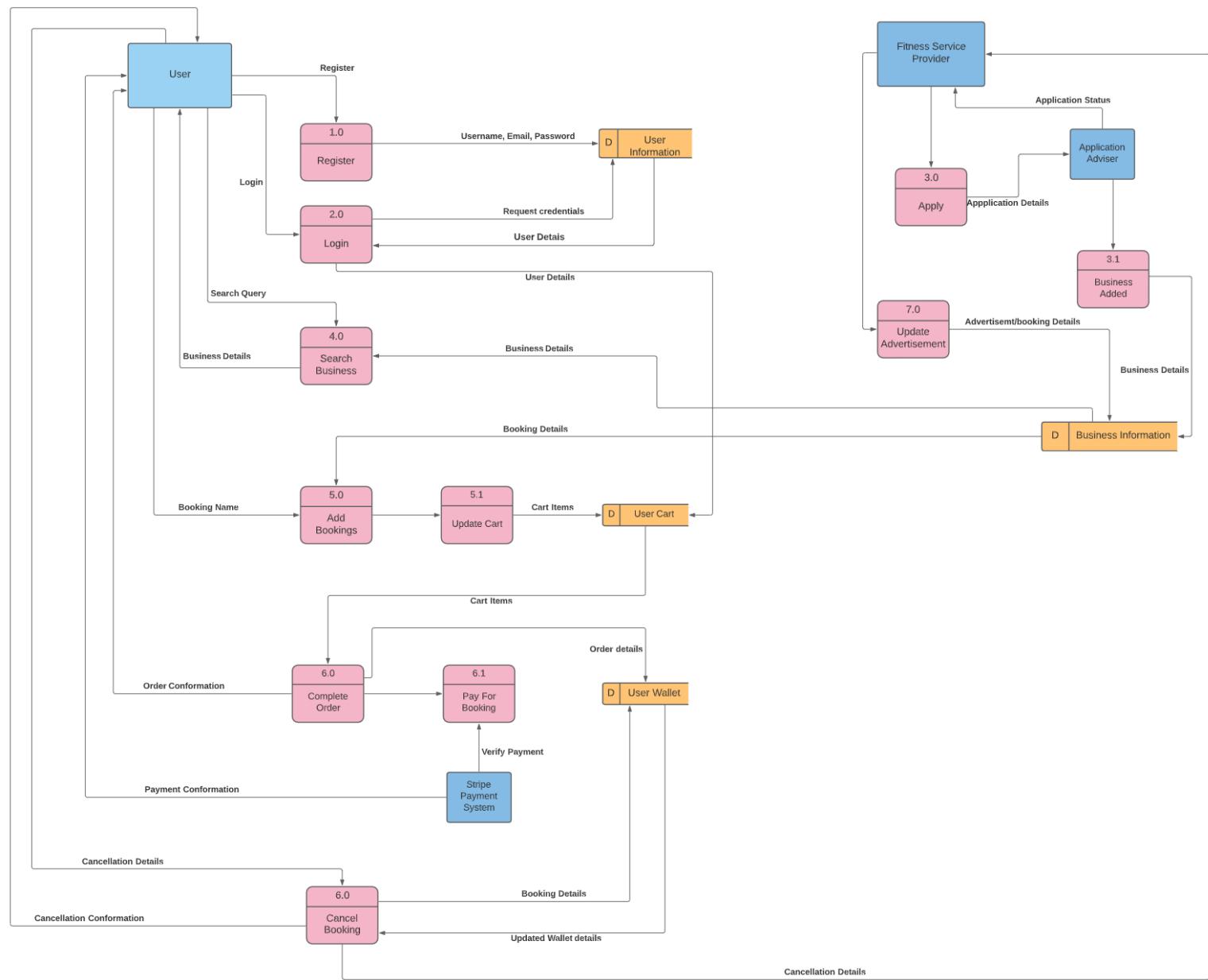


Figure 25: Data Flow Diagram Level 2

3.5 Design Rationale

3.5.1 Interface rational

- Bootstrap:

We leveraged the open source web design framework Bootstrap throughout our website as it offers a number of benefits which we were looking for in our implementation of interface rationale. Bootstrap's grid layout allowed us to be flexible when designing the interface as it could also be mobile friendly, meaning there are far less cross browser bugs. Another benefit of Bootstrap is their responsive structures and styles and the ample documentation available on different styles which we used to implement the interface in many of our pages.

- Filtering:

For the filtering functionality on our available bookings page we chose to have the two most relevant filters as our only filter when customers are searching and filtering for the booking they want, which made the interface simple and clean. Users can filter by "Location" where they can enter the county they are searching for an available booking in, additionally users can filter by the category of the service be it yoga, gym booking, pilates etc. through "Category".

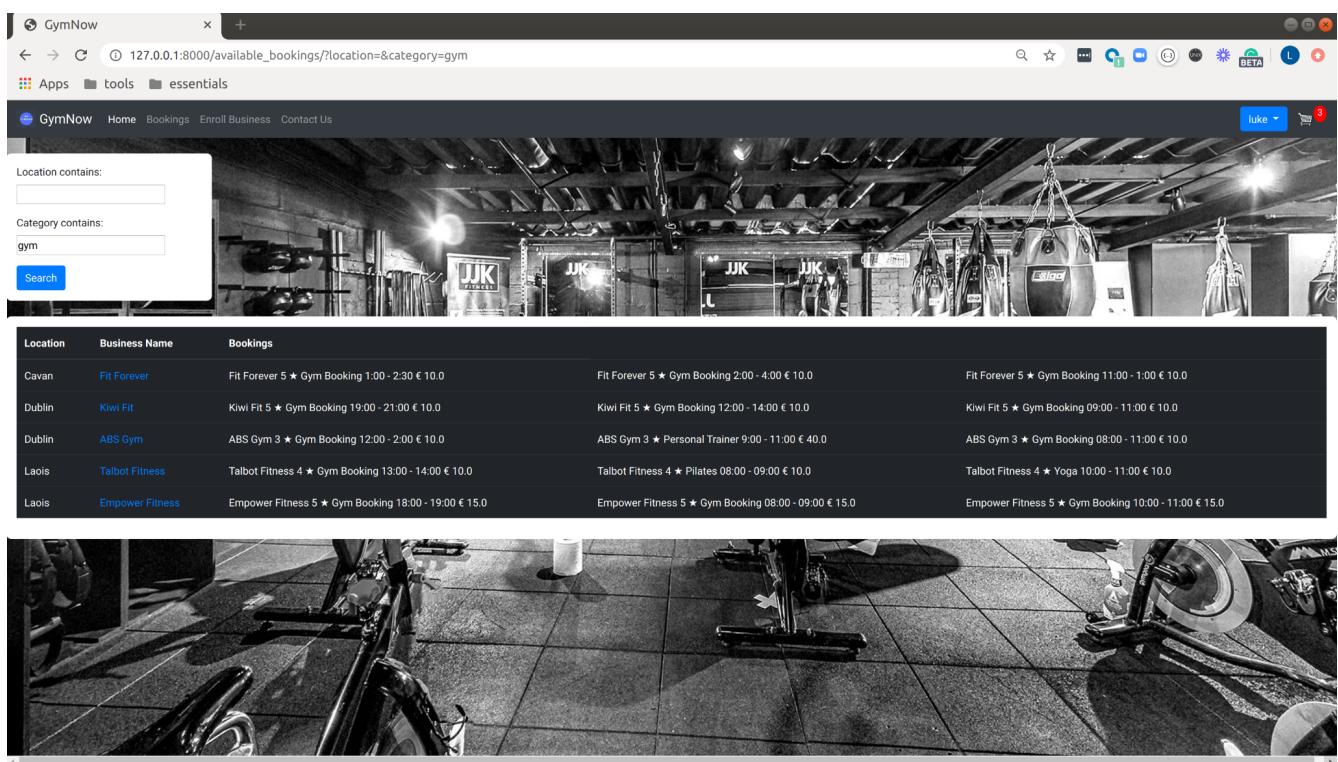


Figure 26 Filtering UI

- Simplistic User Interface:

In relation to our website interface we tried to implement a simple user interface throughout the pages so any user no matter what their tech savvy or knowhow can navigate our website without any issue . We leveraged Bootstrap the open-source CSS framework through our website to keep a simple UI which had the ability to conform to mobile devices as well as desktop and tablet devices.

- Cart:

The cart icon and page was another important part of our simplistic user experience and interface, users have the ability to check the quantity of bookings they currently have which is indicated by the number in red beside the cart icon in the navbar, this removes the need for users to navigate to the cart page to

check how many bookings they currently have in their cart. On the cart page then users have the option to increase or decrease the quantity of the booking using the up and down arrows, this removes the need for users to have to revisit the available bookings page and find the booking again if they wish to add the same additional booking or users can simply remove the booking by decreasing the quantity using the down arrow.

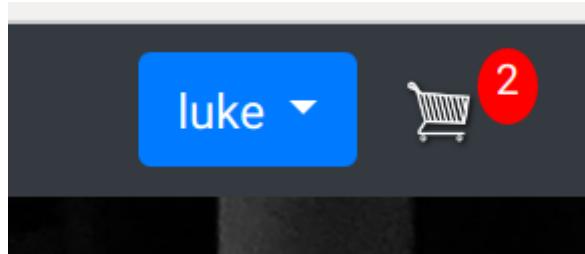


Figure 27: Reactive Cart Icon

Item	Time	Price	Quantity	Total
AB Fitness	2:00 - 4:00	€70.0	1 ▲ 1 ▼	€70.0
Talbot Fitness	13:00 - 14:00	€10.0	1 ▲ 1 ▼	€10.0

Figure 28: Cart Basket UI

- End-to-end process:

When constructing the interface for our website we always tried to implement an end-to-end navigation process when users were making a booking, so there were only a few simple steps from the homepage to completing the booking or whatever process the user wished to carry out. We wanted the website to be first and foremost for convenience rather than screen time or the period of time the user spent on our platform

- Colour Scheme:

When styling the pages of the website we wanted to apply a minimalist background and background images and then a brighter colour scheme for the forms and buttons that were of importance, which is why the background images were usually dark or grey as well as the available bookings table, the blue colour “primary” from Bootstrap and the “text-white” we used for the buttons and forms really made them stand out and clear which made the UI easier to understand.

- Navbar:

For the purpose of a simplistic user experience and convenience, all the key functionality of our website can be found and utilized in our navbar (seen below). This makes for a simple interface and far easier for users to navigate our website, which such features as the dropdown profile options and current cart information on the right side of the navbar and then URL hyperlinks to the primary pages of our site on the left such as “Bookings”, “Enroll Business” and “Contact Us”, with the added feature of the “GymNow” logo being a hyperlink that redirects users always back to the homepage



Figure 29: NavBar

- Update business profile:

The use of models and a simple interface allows business owners with limited tech knowledge or experience to be able to adjust their advertisement or business profile information if they wish to do so; it is not a complicated process. The “business profile” can be found in the users dropdown menu on the right of the navbar which is a URL hyperlink which redirects them to their business profile where they can edit their email, location, bio information, picture, phone number etc.

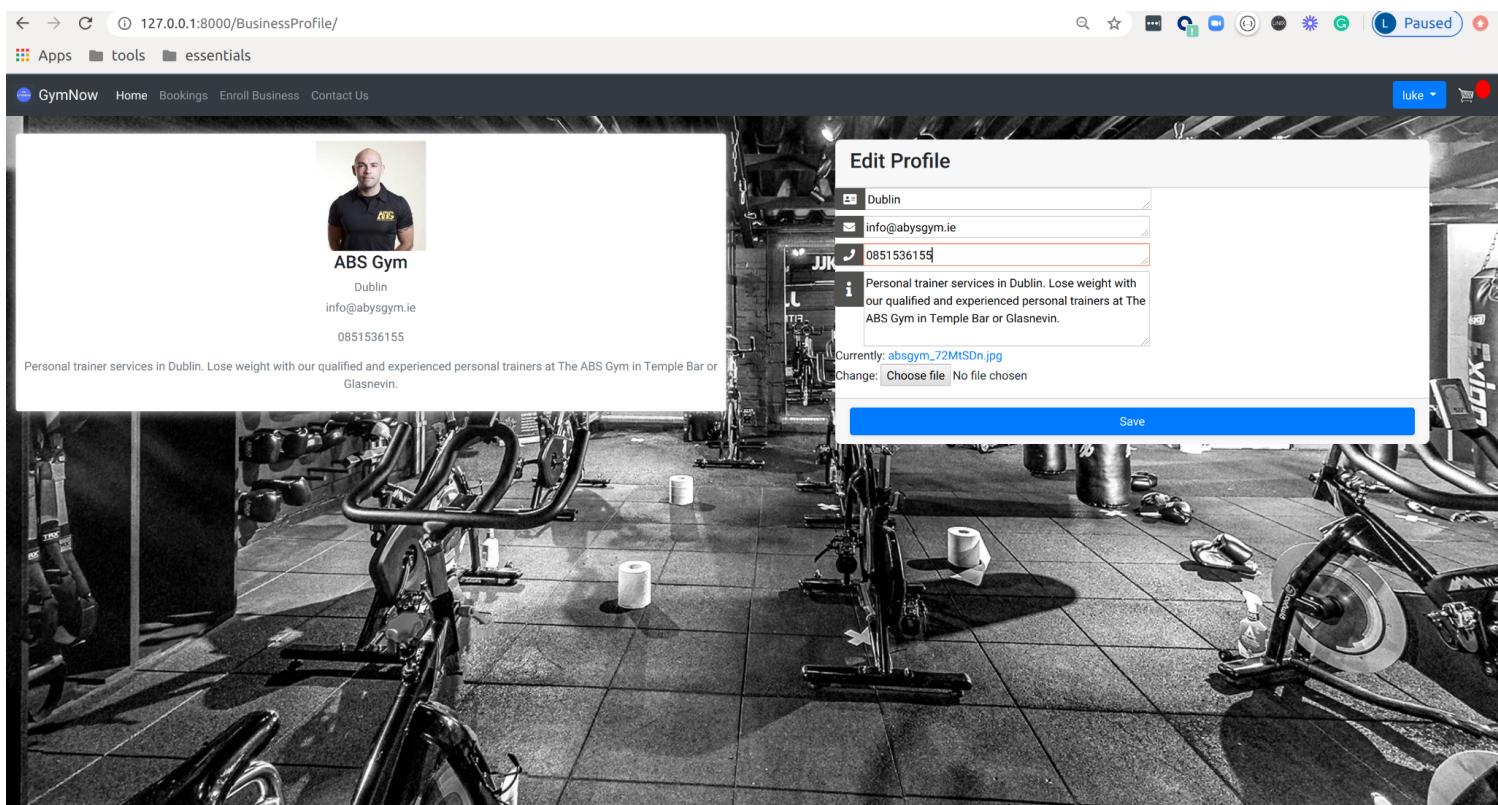


Figure 30 : Business Profile

3.5.2 Source Code Highlights

Updating Cart

A key value proposition of GymNow is the quick and seamless comparison and booking of fitness service providers advertisements, to provide this end-to-end functionality with our MVP we developed a customer shopping cart. This shopping cart is responsive and provides users the ability to change their item quantity, which will automatically update the carts data with new pricing and total figures. The main orchestrator of this functionality is the use of JavaScript function seen in Figure 31, This function listen for the button who contains an “update-cart” element, when heard this function takes the data corresponding to “data-booking” and “data-action” as can be seen in Figure 32 and sends this data as a Json object using HTTP POST to the UpdateCart url, this url then routes this data to the corresponding view named in its urlpatterns. With the update cart view we see how the data is loaded in using json.loads and the functionality of each action to a booking seen in Figure 33.

```

src > GymNow_site > static > GymNow_site > js > JS shoppingcart.js > updateCustomerBooking
1   var updateBtns = document.getElementsByClassName('update-cart')
2
3   // for loop which listens for update-cart button to be clicked on any page with bookings, gets bookingId and Action when clicked
4   for (var i = 0; i < updateBtns.length; i++) {
5       updateBtns[i].addEventListener('click', function () {
6           var bookingId = this.dataset.booking
7           var action = this.dataset.action
8           console.log('bookingId:', bookingId, 'action:', action)
9
10          console.log('USER:', user)
11
12          if (user == 'AnonymousUser') {
13              console.log('User is not logged in')
14          } else {
15              updateUserBooking(bookingId, action)
16          }
17      })
18  }
19
20
21 // this function sends bookingId and action to the UpdateCart View as a Json objecct
22 function updateUserBooking(bookingId, action) {
23     console.log('User is logged in, sending data...')
24
25     var url = '/UpdateCart'
26
27     fetch(url, {
28         method: 'POST',
29         headers: {
30             'Content-Type': 'application/json',
31             'X-CSRFToken': csrfToken,
32         },
33         body: JSON.stringify({'bookingId': bookingId, 'action': action})
34     })
35     .then((response) => {
36         return response.json();
37     })
38     .then((data) => {
39         console.log('data:', data)
40         location.reload()
41     });
42 }
43

```

Figure 31: Customer Shopping Cart Javascript

```

38
39     <table class="table">
40         <tr>
41             <th>
42                 <!-- returns number of booking in the cart -->
43                 <h5>Bookings: <strong>{{customerbooking.get_cart_items}}</strong></h5>
44             </th>
45             <th>
46                 <!-- returns the total cost for the bookings in the customer cart -->
47                 <h5>Total:<strong> €{{customerbooking.get_cart_total}}</strong></h5>
48             </th>
49             <th>
50                 <a style="float:right; margin:8px;" class="btn btn-outline-dark btn-lg"
51                     href="#"><% url 'checkout' %}>Continue to checkout</a>
52             </th>
53         </tr>
54     </table>
55
56     <br>
57     <div class="box-element">
58         <div class="card card-body">
59             <table class="table">
60                 <thead class="table-dark">
61                     <tr>
62                         <th>Item</th>
63                         <th>Time</th>
64                         <th>Price</th>
65                         <th>Quantity</th>
66                         <th>Total</th>
67                     </tr>
68                 </thead>
69                 <!-- loops through all the items (which are the added bookings) in the cart -->
70                 <% for item in items %>
71                     <tr>
72                         <td>{{item.booking.business}}</td>
73                         <td>{{item.booking.time}}</td>
74                         <td>{{item.booking.price}}</td>
75                         <td class="quantity">{{item.quantity}}
76                             <div class="quantity">
77                                 <!-- add quantity button -->
78                                 
80                                 <!-- decrease quantity button -->
81                                 
84                             </div>
85                         </td>
86                         <td>{{item.get_total}}</td>
87                     </tr>
88                 <% endfor %>
89             </table>
90         </div>
91     <% endif %>
92 <% endblock content %>
93

```

Figure 32: Update Cart Elements

```

155 def UpdateCart(request):
156     # json data imported from cart.html using shoppingcart.js
157     # bookingId allows us to track the exact booking and get its corresponding data like price, business, time etc
158     # BookingItem is made up of the a booking
159     # if the action imported is add the booking quantity increases by one, increasing the price
160     # if the action imported is remove the booking quantity decreases by one until quantity = 0 where the booking is then removed from the users cart
161
162     data = json.loads(request.body)
163     bookingId = data['bookingId']
164     action = data['action']
165     print('Action:', action)
166     print('Booking:', bookingId)
167
168     user = Customer.objects.get(user=request.user)
169     booking = Booking.objects.get(id=bookingId)
170     customer_booking, created = CustomerBooking.objects.get_or_create(customer=user, complete=False)
171
172     bookingItem, created = BookingItem.objects.get_or_create(customerbooking=customer_booking, booking=booking)
173
174     if action == 'add':
175         bookingItem.quantity = (bookingItem.quantity + 1)
176     elif action == 'remove':
177         bookingItem.quantity = (bookingItem.quantity - 1)
178
179     bookingItem.save()
180
181     if bookingItem.quantity <= 0:
182         bookingItem.delete()
183
184
185     return JsonResponse('Booking was added', safe=False)

```

Figure 33: Update Cart Python Function

Customer Wallet

Similar to the Update Cart functionality, having a responsive customer wallet which can be viewed to show customer confirmed bookings and allowing these bookings to be cancelled if required is imperative to GymNow Business Concept and therefore a core Functionality of the MVP. To provide this we once again made use of a JavaScript function seen in Figure 34, which has the exact same process as mentioned above, however it listens for elements tagged with “Update-booking”, it also recovers customer bookings, which are the order that have been made by a customer and can include many different Fitness Service provider bookings and differing quantities. To retrieve this customer booking within GymNow MVP one must always be available this is done through a `get_or_create` method seen in Figure 35, This provides a problem where all customer bookings would then appear in the user wallet even if not paid for, to resolve this we used a `complete` boolean argument as seen in Figure 35 line 303, which when a customer order is completed is set to “True”, We can then use this argument along with a `**` operator and the `customer` argument to Filter only completed Orders made by the logged in User as seen in Figure 36. A really impressive feature of this code seen in lines 276-277 Figure 36 is to query three Key-value arguments by use of reverse lookup all within two lines of code. Using the `**` operator allows us to use multiple dictionary keyword arguments which are then placed with the `filter` method. The use of double underscores also allowed us to perform these reverse model lookups.

```

44 var updateBtns = document.getElementsByClassName('update-booking')
45 // for loop which listens the update-booking to be clicked, gets customerbookingId and Action when clicked
46 for (var i = 0; i < updateBtns.length; i++) {
47     updateBtns[i].addEventListener('click', function () {
48         var customerbookingId = this.dataset.customerbooking
49         var action = this.dataset.action
50         console.log('customerbookingId:', customerbookingId, 'action:', action)
51
52         console.log('USER:', user)
53
54         if (user == 'AnonymousUser') {
55             console.log('User is not logged in')
56
57         } else {
58             updateCustomerBooking(customerbookingId, action)
59         }
60     })
61 }
62
63 // this function sends customerbookingId and action to the UpdateBooking View as a Json object
64 function updateCustomerBooking(customerbookingId, action) {
65     console.log('User is logged in, sending data...')
66
67     var url = '/UpdateBooking/'
68
69     fetch(url, {
70         method: 'POST',
71         headers: {
72             'Content-Type': 'application/json',
73             'X-CSRFToken': csrfToken,
74         },
75         body: JSON.stringify({customerbookingId: customerbookingId, action: action})
76     })
77     .then((response) => {
78         return response.json();
79     })
80     .then((data) => {
81         console.log('data:', data)
82         location.reload()
83     });
84 }

```

Figure 35: Update Booking JavaScript

```

289 def completeOrder(request):
290     # this view pulls JSON data when confirm-payment button is press on checkout pages
291     # it checks if the total pulled when the button was clicked is the same as the total in the users cart
292     # if their equal the complete attribute in customerbooking is set to true and will now show up in the users wallet
293     transaction_id = datetime.datetime.now().timestamp()
294     data = json.loads(request.body)
295
296     if request.user.is_authenticated:
297         user = Customer.objects.get(user=request.user)
298         customerbooking, created = CustomerBooking.objects.get_or_create(customer=user, complete=False)
299         total = float(data['form']['total'])
300         customerbooking.transaction_id = transaction_id
301
302         if total == customerbooking.get_cart_total:
303             customerbooking.complete = True
304             customerbooking.save()
305
306     else:
307         print('User is not logged in')
308
309     return JsonResponse('Payment Successful', safe=False)
310

```

Figure 36: Complete Order Function

```

271 @login_required(login_url='login_page')
272 def customer(request):
273     # this view returns successfully completed order who have the logged in user assinged to the customer booking
274     if request.user.is_authenticated:
275         user = Customer.objects.get(user=request.user)
276         lookup = {'customerbooking__complete': True, 'customerbooking__customer': user}
277         customerbookings = BookingItem.objects.filter(**lookup)
278         items = []
279         cartItems = []
280     else:
281         customerbookings = []
282         items = []
283         cartItems = []
284
285     context = {'customer':customer, 'customerbookings':customerbookings, 'items':items, "cartItems":cartItems}
286
287     return render(request, "pages/customer.html", context )
288

```

Figure 37: Customer Wallet Function

Business Page

A core development ideology was to have a platform that is sleek, simplistic but very importantly it needed to be highly scalable is vital for our business concept and we therefore placed high value upon it, the main area where this can be seen is with Our Fitness service providers, To have a network which has enough Fitness Service providers on it to provide the Value for our customers, we will need hundreds of business pages, each holding multiple bookings which in turn hold their own booking data. To make a HTML page for each business would have been a major code redundancy issue. To solve this problem we used one HTML template seen in Figure 38, A for loop runs through the business owner model data, to differentiate between which Business Owner data to perform the loop on a primary key identifier is used as an argument to filter each Business page as seen in Figure 39, the Primary key that's placed in this function comes from the url pattern seen in Figure 40 line 15.

```

46 <div class="card">
47   <table class="table table-dark">
48     <th>Bookings</th>
49   </table>
50
51   <div class="row">
52     <div class="col-sm-6">
53       {% for i in business_owners %}
54         <div class="card border border-dark shadow-0 mb-3" style="max-width: 18rem">
55           <div class="card-body">
56             {% for available_bookings in i.available_bookings.all %}
57               <p class="card-text">{{available_bookings}}</p>
58               <!-- button adds selected available booking to customers cart --&gt;
59               &lt;button data-booking="{{available_bookings.id}}" data-action="add"
60                     class="btn btn-primary add-btn update-cart"&gt; Book&lt;/button&gt;
61               {% endfor %}
62             &lt;/div&gt;
63             &lt;a href="{% url 'cart' %}" class="btn btn-primary"&gt;Shopping cart&lt;/a&gt;
64             {% endfor %}
65           &lt;/div&gt;
66         &lt;/div&gt;
67       {% endblock %}
</pre>

```

Figure 38: Fitness Service Providers available bookings for loop

```

249 @login_required(login_url='login_page')
250 def business_owners(request, pk):
251     # this view uses requests the primary key of a Business, it uses objects.filter to get the objects of the business owner model associated to requested primary
252     # Includes cart functionality
253     if request.user.is_authenticated:
254         business_owners = Business_Owner.objects.filter(pk=pk)
255         user = Customer.objects.get(user=request.user)
256         customerbooking, created = CustomerBooking.objects.get_or_create(customer=user, complete=False)
257         items = customerbooking.bookingitem_set.all()
258         cartItems = CustomerBooking.get_cart_items
259
260     else:
261         business_owners = Business_Owner.objects.filter(pk=pk)
262         customerbooking = []
263         items = []
264         cartItems = []
265
266     context = {"business_owners": business_owners, 'items':items, 'customerbooking':customerbooking, "cartItems":cartItems }
267     return render(request, "pages/business_owners.html", context)
268

```

Figure 39 : Business Owner Function

```

5 urlpatterns = [
6     path('homepage/', views.homepage, name='homepage'),
7     path('login_page/', views.login_page, name='login_page'),
8     path('logout/', views.LogOut, name='logout'),
9     path('register_page/', views.register_page, name='register_page'),
10    path('contact_us/', views.contact_us, name='contact_us'),
11    path('Enroll_business/', views.Enroll_business, name='Enroll_business'),
12    path('cart/', views.cart, name='cart'),
13    path('checkout/', views.checkout, name='checkout'),
14    path('membership_form/', views.membership_form, name='membership_form'),
15    path('business_owners/<str:pk>/', views.business_owners, name='business_owners'),

```

Figure 40: Business Owner Urlpattern

3.6 Technical Challenges

Discussed below are some of the main technical challenges we encountered or considered in bringing our business idea to the market.

- QR code:

One aspect of our business process which we found quite difficult to implement, was the QR code day pass to use one of the fitness service providers on our platform. The way this works is the user would receive a QR code from GymNow upon the successful completion of a booking on our platform, they would then utilize this QR code as their day passes to enter the facility or gym where the staff there would scan the code and receive all the users relevant booking information to confirm the booking. A big consideration when we discussed this was what user information was shared to the fitness service providers upon scanning this code and we had to keep in mind GDPR regulations when trying to implement this. In the end we found the implementation of the QR code generator needed to consistently display the users information of their booking upon being scanned difficult to overcome, as the increased potential costs and time sacrifice far outweighed the benefits.

- Data Protection:

A big technical challenge for our business case was data protection, in relation to customers data, as well as any of the fitness service providers on our platform. The success of GymNow is heavily dependent on our customer database which we plan to store securely using AWS cloud storage. It is also dependent on compliance with GDPR regulations, especially with certain aspects of our business operation such as the QR code mentioned above. A big challenge for us was to ensure compliance when sharing information with fitness service providers and vice versa. A breach of GDPR regulation would have devastating consequences for our business in terms of reputations as well as potential investment. This is why we felt the need to leverage a GDPR consultant through the first two years costing us €22,875, they would be charged with ensuring there are no occurrences of non-compliance from us or any of our employees.

- Scalability of network:

As a business we will be constantly looking for ways to expand and grow GymNow, we will initially be focused on the Irish market but we also have future plans and aspirations of entering the UK and European market. A challenge of this process will be to ensure the foundations are there and the infrastructure of our system stays the same as we scale up and grow to enter into foreign markets. Ensuring we have the same GymNow ethos, provide the same ideals, as well as providing the same quality and efficient service to our foreign customer base in the UK & EU Market will be a big challenge but it will ensure the reputation of our business once entering these markets.

- Payment Reliability:

Secure transactions and refund of payment will be essential to the service we provide at GymNow, from users paying for their membership to a one time fee to use one of the fitness service providers on our platform. The security and reliability behind customers making a payment on our platform is a priority with our service, and we found it quite challenging to implement the right payment software. Initially, we had plans to implement a secure payment gateway but then realised we could not allocate the time sacrifice and learning needed to create this, so we decided to utilize Stripe, the on-site payment gateway. We chose this over PayPal as we didn't want users to be redirected or have to sign up with PayPal which would take away from the convenience of the service we provided.

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Appendix:
Appendix A

Luke Attride,
Lower Rossmore,
Killeshin,
Carlow.

Mobile: 085 2176 789
E-Mail:
lattride@gmail.com

Education and Training:

Third Level

2017 – Now BA Degree in Enterprise Computing - Dublin City University

Second Level

2011-2017 Leaving Cert (2017) - Knockbeg College, Carlow

Work Experience:

2020/2021 (April - Present) Product Support Engineer Telnyx Ireland Ltd, Dublin

- Part-time as an intern and in college and joining full time starting in June.
- Act as a liaison for operators and other I.T. technicians while providing engineering support for network access issues.
- Solve circuit outages and monitor device uptime.
- Manage changes, upgrades, improvements and integrations while collaborating with different teams.
- Work with customers to provide support for issues with our services and products.

2019 (May-August) Customer Assistant Arboretum Garden Centre Ltd. , Carlow

Responsibilities:

- Worked in the shop department and received advanced training, which I used to provide excellent customer service, in dealing with and managing customers.
- Worked behind the till on a daily basis, closing sales and handling cash.
- Maintained an efficient stock rotation.
- Reached daily shop sales targets consistently, by taking an enthusiastic and friendly approach to find the right products for customers.

2018 (October-December) Customer Assistant Pennys, Swords

Responsibilities:

- Provided excellent customer service on a daily basis, in dealing with and managing customers.
- Worked behind the till on a daily basis closing sales and handling cash.

2018 (July) Camp Leader Activ8 Discovery Limited

Responsibilities:

- High level of planning and organisation.
- In charge of large groups of children.
- Facilitated the enjoyment for each child at the camp and improvement in everyday skills.

2018 (June) Delivery Driver Scats Bouncing Castles

2016 (July-August) Coach Cul Camps Football

Responsibilities:

- High level of planning and organisation.
- Facilitated the enjoyment and technical improvement of each participant.
- Interaction with parents on a daily basis.

2015-2016 Customer Assistant Detail Menswear, Carlow

Responsibilities:

- Maintained an efficient stock rotation.
- Provided excellent customer service on a daily basis, in dealing with and managing customers.
- Trustworthy as shown with task of closing up the shop at the end of the day.
- Worked behind till on a daily basis closing sales and handling cash.

2015 (January-February) Delivery Driver Scats Bouncing Castles

2015 (March) Work Experience Lightning Printing & Design, Carlow

2014 (November) Work Experience IT Carlow, Barrow Centre (Sports)

2013-2014 (July-August) Tennis Coach Parks Tennis Summer Camp, Carlow.

Skills:

Team Working:

- Experience in collaborating with colleagues in achieving common goals both through college assignments and previous work experience. Strong motivation and determination as a team player and also as an individual as demonstrated in my sporting activities including being selected on Laois Minor Football Panel 2016.

Sales/Marketing Skills:

- In my employment in Arboretum Garden Centre, I had sales target figures to reach in my area every day as set out by the managers at the beginning of the day. I used an enthusiastic and friendly approach to try and reach these goals and more times than not I succeeded.
- Maintained High levels of success through selling clothing and footwear to customers on a daily basis in my time in Detail Menswear.

Computing Skills:

- Programming Languages: Python, UML, Shell, Programming language R.
- Familiar with CSS and HTML from Web Design, as well as Django as a python-based web framework.
- Familiar with Git through regular use.

- Proficient in Excel, Microsoft Word and PowerPoint.
- Worked with both Microsoft and Linux operating systems on a daily basis.

Communication:

- Strong presentation skills and confidence demonstrated by presentations to groups of up to 50.

Languages:

- Studied both French and Irish languages up to honours level for the Leaving Certificate examination.

Planning & Organising:

- Experienced in time management as critically evaluated data and wrote concise reports while adhering to deadlines.

Other Interests**and Achievements:**

- Full Driving Licence.
- GAA, Soccer, Rugby and Music.
- Irish Water Safety Level 1.
- First Aid Qualification.
- Laois Minor Football Panellist (2015/2016)

Full references available on request.

Appendix B

Adrian Lackey

Clifferna, Stradone, Co.Cavan | 0863214920 | adrianl2k12@gmail.com | [LinkedIn](#)

ABOUT ME

- I am a Final year student studying Enterprise Computing at Dublin City University.
- I'm an extremely energetic, motivated and driven individual.
- I'm an adaptable person who has developed a range of skills throughout my academic years and work experience including communication, organisation, teamwork and problem-solving.
- I'm an ambitious person with a clear vision of my career path with a major passion for technology and business with a clear vision of my career path.

SKILLS

IT SKILLS

- Programming Languages: Python
- Web Design: Django, HTML, CSS
- Database Management System: MySQL, PostgreSQL and Django SQLite
- System Administration experience including Office 365 suite and Jira.
- Software Architecture: UML(Unified Modeling Language), Microsoft Azure
- Enterprise Architecture: Zachman Framework and BPMN(Business Process Management Notation)
- Automation: Automation Workflow design and maintenance skills
- Working knowledge of Apple OS, Windows OS, and Unix OS.
- Very proficient in using Word, Excel, PowerPoint, Slack, and Bash Scripting.
- Familiar with Wireshark.
- Considerable knowledge of using Git and GitHub.
- Experiences working in SCRUM.

INTERPERSONAL SKILLS

- Excellent teamwork skills.
- Great communication skills.
- Considerable organizational & timekeeping skills.
- Customer Service

PROJECT MANAGEMENT SKILLS

- Project Scheduling Design (Gantt Charts).
- Resource requirement calculation and reporting.
- Weekly, Monthly and Annual programme and project cost reporting.
- Agile experience.
- Sprint management skills.

EXPERIENCE

Eiratech Robotics, Blanchardstown, Dublin – System Administrator & Business Analyst

January 2020 – January 2021

- I worked in a robotics engineering start-up in a 7-month internship which I continued working part-time until January 2021.
- In this role, I worked as a System Administrator and Business Analyst
- I oversaw our Office 365 suite, smartsheet, and Jira applications, troubleshooted any issues with these applications, introduced new automated workflows and documentation protection procedures.
- I developed and maintained sales reports and dashboards, companywide revenue, cost and expense reports, project and install schedules with weekly and monthly cost reporting. I also designed, developed and maintained four automated companywide systems.
- I also assisted our project manager with our Agile methodology as I organised and created scrum boards, started and completed project sprints and joined daily standups.
- I worked alongside our DevOps engineer to produce Microsoft Azure documentation on deployments and Create and tweak Jira automated workflows.

Glanbia, Virginia, Cavan – Production operator

May 2018 – December 2019

- I worked in Glanbia Full-time during the summer and autumn months when I had finished my academic year.
- I was trained as a production operator and Forklift driver.

Manor Farm, Corclare, Shercock, Cavan – Production Staff

July 2017 – January 2018

- I worked in various areas of the production line Gaining skills in team working and communication which were essential to ensure the quality was kept throughout the production line which was up to the company's standards.

Farnham Arms Hotel, Cavan – Bartender

Jan 2016 – December 2016

- I worked as part of a nightclub and lounge bar staff. My responsibilities were serving alcohol to customers, cleaning the nightclub and bar, ensuring a constant safe environment for customers and providing a high standard of customer service.
- Gained skills in multitasking, thinking on my feet, quick decision making and dealing with customers in difficult situations.

EDUCATION

College – Dublin City University – Bsc Enterprise Computing

September 2017 – June 2021

- Learned about many aspects of software development such as programming, data structures, database management, networking, Network Configuration, testing, frontend and backend web development, and other fundamentals of computer science.
- Explored business and enterprise concepts such as Information Management, Enterprise Architecture, Project management, and other areas of business.
- Modules Complete:
 - Business Information Management
 - User Interface Design and Implementation
 - Business Database Management
 - Business Systems Analysis
 - Quantitative Analysis for Business Decisions
 - High Tech Innovation and Entrepreneurship
 - IT Architecture
 - Internet of Things
 - Software Engineering Process, Principles and Method
 - Web Design
 - Enterprise Architecture
 - User Interface Design and Implementation
 - Programming Fundamentals 1,2 & 3
 - Cloud Computing
 - Developing Internet Applications
 - Project Management

I achieved a 2:1 grade in my first year, a 2:1 grade in second year, a 1:1 grade in my third year and hope to finish with a 1:1 degree this May.

Secondary School – St. Aidan's Comprehensive School – Cavan

September 2011 – June 2017

I received 402 points in my Leaving Certificate 2017.

HOBBIES & ACHIEVEMENTS

- I am a passionate sports player, playing for both my local club and previously my county in Gaelic football and soccer, I also enjoy golf and basketball and going to the gym.
- I enjoy and am really interested in investing and trading stocks.
- Self-proclaimed film lover.
- Full Drivers Licence
- I have completed the nation training solutions forklift certification in 2018
- I have completed the Manual Handling certificate in 2018.

I thank you for taking the time to read my curriculum vitae.

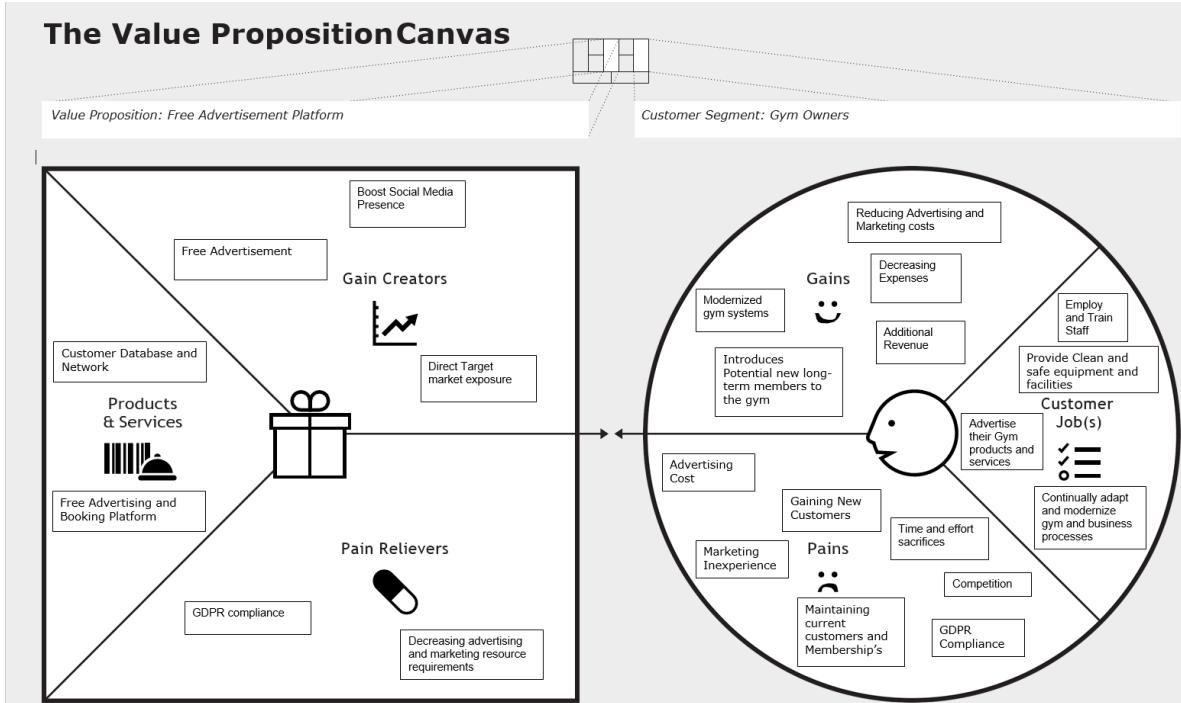
Signed: *Adrian Lackey*

Appendix C

<https://app.smartsheet.com/b/publish?EQBCT=313c887a87924796af291426d46f302b>

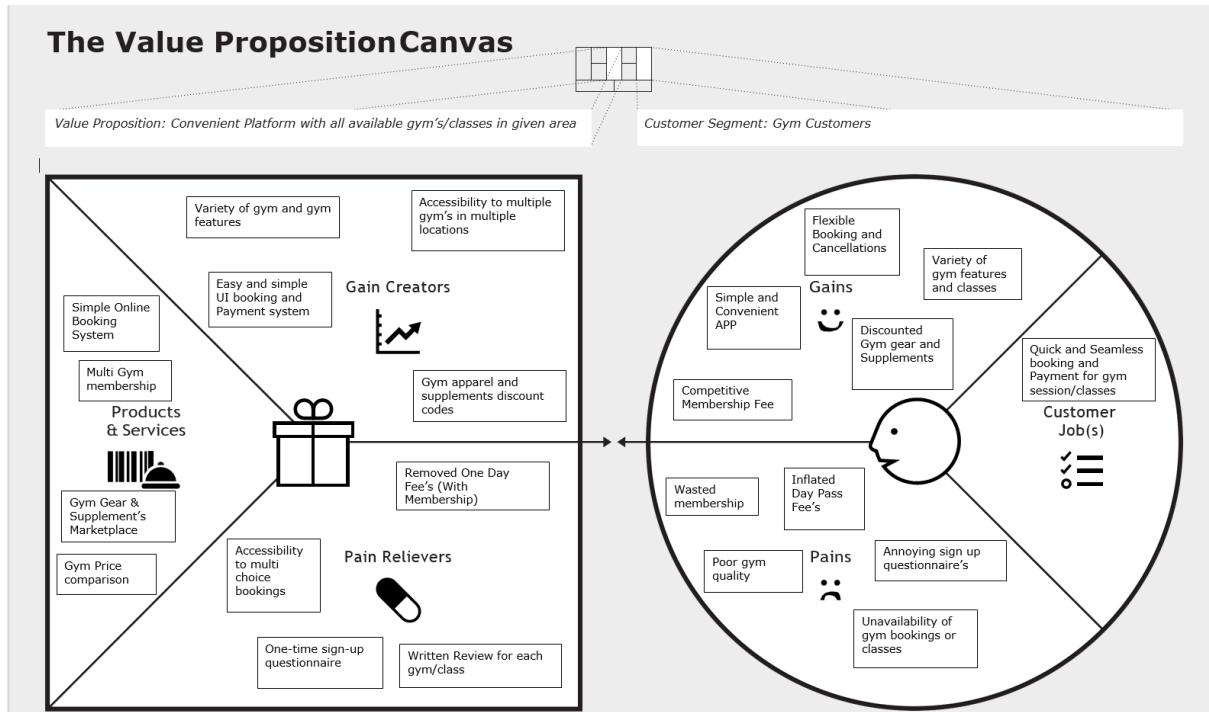
Appendix D

The Value Proposition Canvas



Appendix E

The Value Proposition Canvas

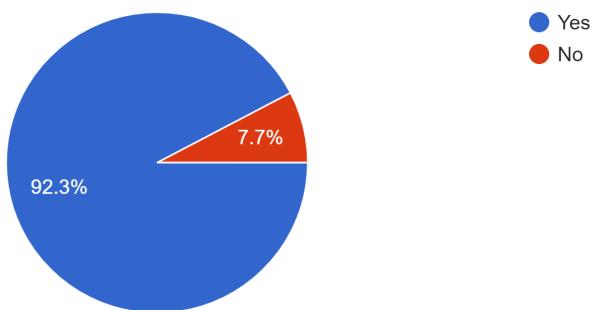


Appendix F

<https://docs.google.com/forms/d/1vtdmj-1sxTeUrsErN1CLk0NxoArPOEy2v0DWrwcv-VI/edit?usp=sharing>

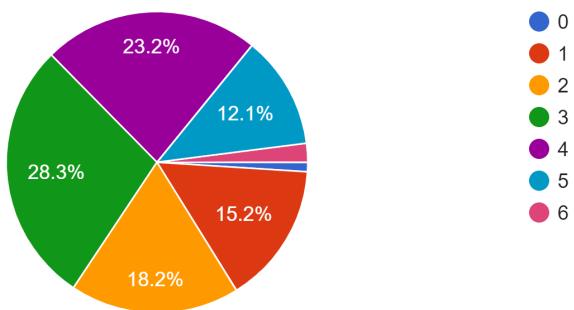
Have you now or previously owned a gym membership

13 responses



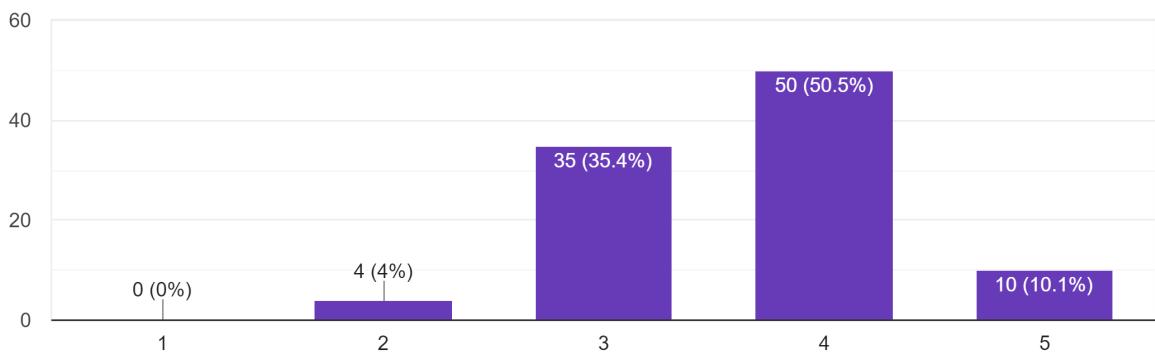
How times a week do you go to the gym

99 responses



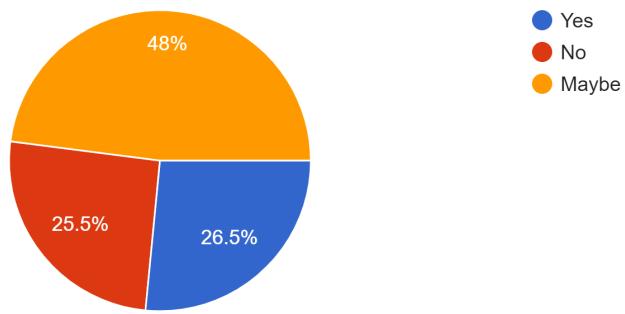
How happy with your current gym?

99 responses



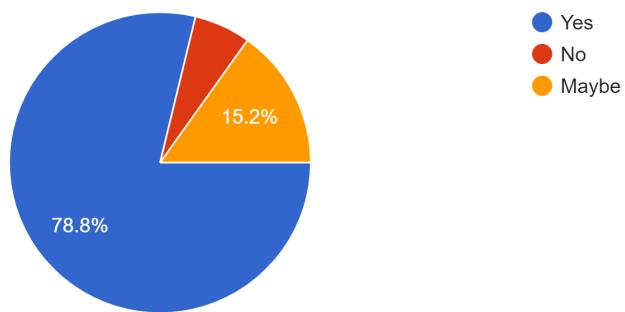
Do you want to try a new gym

98 responses



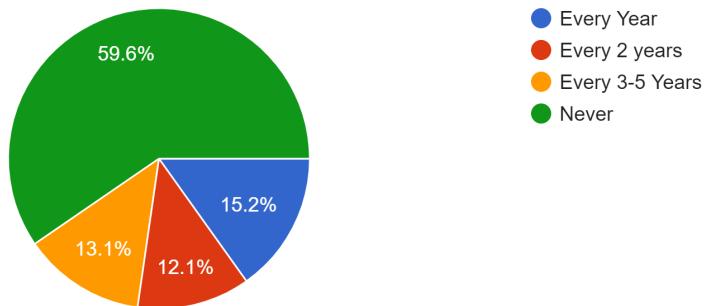
Would you try new gym's if there was no extra cost on your membership

99 responses



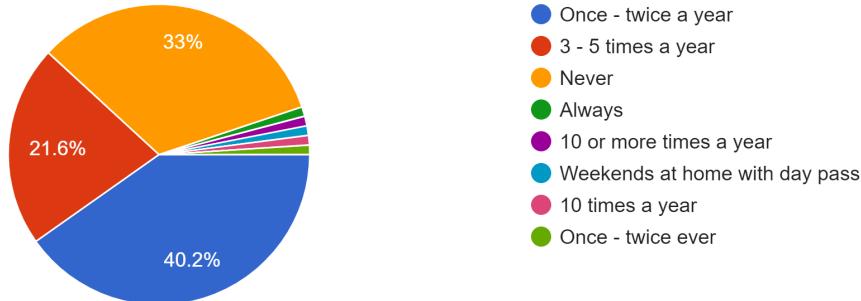
How often do you change Gyms

99 responses



How often have you visited a gym without membership

97 responses



Appendix G

Office Space Calculator

Enter the number of units for each space type, then click [search office properties](#).

The actual amount of usable square feet required may differ due to varying conditions such as floorplate configuration, column spacing, and circulation areas. The actual amount of rentable square feet required may differ depending on the allocations of common areas in a given building.

	Space Type	Dimensions(Space Size)	#Units	Total Size
offices	CEO/Director's Offices	15' x 20' (300 SF)		
	Partner's Offices	15' x 15' (225 SF)	2	450
	Standard Offices	10' x 15' (150 SF)		
	Small Offices	12' x 10' (120 SF)		
cubicles	Supervisor Workstation	10' x 10' (100 SF)	5	500
	Standard Cubicle	8' x 6' (48 SF)	40	1920
	Small Cubicle	5' x 5' (25 SF)		
conference	Board Room	15' x 25' (375 SF)		
	Conference Room	15' x 20' (300 SF)		
	Small Meeting Room	15' x 15' (225 SF)		
misc	Large Reception	20' x 25' (500 SF)	1	500
	Small Reception	15' x 20' (300 SF)		
	Copy Room	15' x 10' (150 SF)		
	Pantry/Break Room	15' x 20' (300 SF)	1	300
	Files/Library	15' x 25' (375 SF)		
				Subtotal: 3670
				+ Circulation Area(30%): 1101
				Total Usable Square Feet: 4771
				+ Add-On Factor(15%): 716
				Total Rentable Square Feet: 5487

Appendix H

The screenshot shows a web browser interface with the URL business.aib.ie/products/finance-and-loans/business-loans. The page features a navigation bar with links to various services like Bet365, HP 8460p, Google, Facebook, and YouTube. Below the navigation, there are three orange "Find Out More" buttons. The main content area has a pink background and displays a quick quote calculator for SME Fixed Rate Loans up to €60,000. It asks for a loan amount of 60000 and a term of 24 months. A "Recalculate" button is available. The monthly repayment is shown as €2,683.80, and the total amount repayable is €64,411.20. An important information note states: "Important Information: This information is provided for illustrative purposes only and does not constitute loan approval or a contract with AIB. The results are based on a fixed rate which will remain unchanged for the duration of the loan term. You may be eligible for other finance options which may be more suitable. So come and talk to us today to discuss options and apply." A link to the Privacy Statement is provided. At the bottom, there is an "APPLY NOW" button.

Appendix I

The screenshot shows a cost estimator for Amazon Elastic Block Storage (EBS). The top section, titled "Amazon Elastic Block Storage (EBS) Info", includes a note about attaching persistent block storage volumes to EC2 instances. The "Storage per instance" section allows selecting the storage type (General Purpose SSD gp2) and specifying the storage amount (1000 GB). A "Show calculations" button is present. The "Amazon EC2 estimate" section provides a breakdown of costs: Amazon EC2 Instance Savings Plans instances (monthly) at 425.44 USD, Amazon Elastic Block Storage (EBS) pricing (monthly) at 110.00 USD, and a total monthly cost of 535.44 USD. Buttons for "Cancel" and "Add to my estimate" are at the bottom right.

Appendix J

The screenshot shows the Amazon EBS cost calculator interface. At the top, it says "Amazon Elastic Block Storage (EBS) Info" and "Attach persistent block storage volumes for your Amazon EC2 instances." Below this, under "Storage per instance", it says "Storage for each EC2 instance" and "Choose EBS volume storage type." A dropdown menu is open, showing "General Purpose SSD (gp2)". Under "Storage amount", there is a text input field containing "15000" and a dropdown menu next to it showing "GB". Below these fields, there is a link "▼ Show calculations" which, when expanded, shows the calculation: "15,000 GB x 0.11 USD x 1 instances = 1,650.00 USD (EBS Storage Cost)" and "EBS Storage Cost: 1,650.00 USD". It also mentions "Amazon Elastic Block Storage (EBS) pricing (monthly): 1,650.00 USD". At the bottom of the calculator, it says "Amazon EC2 estimate" and lists the following costs:

Category	Cost
Amazon EC2 Instance Savings Plans instances (monthly)	124.39 USD
Amazon Elastic Block Storage (EBS) pricing (monthly)	1,650.00 USD
Total monthly cost:	1,774.39 USD

There are "Cancel" and "Add to my estimate" buttons at the bottom right.

Appendix K

Year 1

https://drive.google.com/file/d/1dRT4pPJmfa-e5UyIG-S7Azz_p4EGmOeO/view?usp=sharing

Appendix L

Year 2

<https://drive.google.com/file/d/1CyXNnqgF7JSVfM7brUaJfyovbpe5ekFY/view?usp=sharing>

Appendix M

Year 3

https://drive.google.com/file/d/1tVUUr7Nr_SlvcwjjsXA19SNwHN7qK5jr/view?usp=sharing