Universidad Europea

SCHOOL OF ARCHITECTURE, ENGINEERING AND DESIGN

INDUSTRIAL ENGINEERING AREA

MASTER'S DEGREE IN PROJECT MANAGEMENT

MASTER'S THESIS
MARKET RESEARCH, SOLUTION DESIGN & IMPLEMENTATION PLAN FOR AN INTEGRATED PET CARE PLATFORM "PETVENTURE"

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1. Summary of Thesis

PetVenture is a cutting-edge mobile application that will cater to the various needs of pet owners. Our aim is to offer a complete pet care solution, including pet sitting services, a pet-friendly business locator, and a marketplace for pet-related products and services. The project is based on substantial research conducted in Madrid, with plans to launch first in Spain, then expand throughout Europe, and eventually globally.

Research and Validation
During the first phase, we carried out comprehensive primary and secondary research to pinpoint the primary challenges encountered by pet owners in Madrid. We used surveys and data analysis to validate the need for the core features of our application Additionally, this phase included outlining the project scope, defining roles and responsibilities, and ensuring systematic and efficient research.

Solution Design and Business Model
During this phase, we created detailed user personas and mapped their experiences to ensure that the app meets user needs. We built prototypes and held iterative feedback sessions using Agile methodologies. Additionally, we developed a sustainable business model that incorporates a multi-faceted monetization approach to ensure steady revenue streams while delivering value to users and businesses. Key project management activities included Sprint Planning, Daily Scrum, Sprint Reviews, and Sprint Retrospective to keep the project on track and meet user expectations. Furthermore, project management will continuously monitor and adjust financial strategies to meet our revenue targets.

Implementation and Development
In Phase III, our main focus will be on app development. We will start by validating assumptions through weekly Sprints, brainstorming, designing, and creating mock-ups for pending user journeys. After that, we will use a predictive, waterfall approach for implementing features. The development process will be divided into three drops:
- Drop 1: Core features like user registration, pet sitting booking, and payment gateway.
- Drop 2: Marketplace for pet products and pet event calendar.
- Drop 3: Remaining features such as pet socializing and lost-and-found services.

Project Management Considerations
In all stages, we have focused on implementing strong project management practices. Agile methodologies provide flexibility and responsiveness, while predictive approaches offer clear timelines and milestones. Regular communication, risk management, and continuous monitoring and control are crucial to our strategy, ensuring the success and sustainability of the project.

Future Steps
Looking ahead, we have identified considerations for the app launch and subsequent business operations. These future steps will facilitate a smooth transition from development to market readiness and operational success, guided by strategic planning and continuous improvement.

In conclusion, PetVenture is poised to revolutionize the pet care industry by offering a comprehensive, user-centric mobile application. We are committed to exceeding user expectations and fostering a vibrant pet care community, ensuring sustainable growth and success for PetVenture.

Key Words: Integrated Pet Care Platform, Pet Sitting, Pet Friendly Establishment Finder

2. Abstract

This thesis presents PetVenture, a mobile application aimed at consolidating pet services for pet owners into a single, easy-to-use platform. PetVenture's main goal is to meet the market's need for a comprehensive tool that helps pet owners find pet sitters, pet-friendly establishments, and other pet-related services.

To accomplish this, our research used a mixed-methods approach, including market analysis, and surveys with pet owners to understand their needs and preferences. The results revealed a significant gap for an integrated pet care app, with respondents expressing frustration over the fragmented nature of existing services.

Based on these findings, we developed a sustainable business model along with a plan for implementing PetVenture, guided by a hybrid project management approach that combines Agile methodologies with traditional project management practices. This plan ensures a flexible yet structured development process, allowing for iterative improvements and timely app delivery.

In conclusion, this research emphasizes the potential impact of PetVenture on the pet care industry, highlighting its ability to streamline pet care services and enhance the overall experience for pet owners. PetVenture is positioned to become an essential tool in the pet care market, meeting the comprehensive needs of its users and fostering a more connected pet care community.

Key Words: Integrated Pet Care Platform, Pet Sitting, Pet Friendly Establishment Finder

3. Introduction

We, as the PetVenture Project team, embark on a journey to tackle widespread challenges in the global pet care and services sector. Inspired by the real-life experiences of one of our team members, Heather, who relocated from the United States to Madrid for her master's studies accompanied by her beloved dog, Prissy, we recognized the need to address the hurdles faced by pet owners in unfamiliar territories. The PetVenture Project aims to revolutionize pet care by leveraging technology to create a unified platform that enhances the overall pet ownership experience.

3.1. Problem Statement
"Assisting pet owners facing challenges in finding pet-friendly places and on-the-go pet sitters, simplifying pet care especially for those in new environments."

In our globalized world, pet ownership is prevalent, yet pet owners encounter significant difficulties in navigating unfamiliar environments with their furry companions. Heather's journey to Madrid underscored these challenges, as she struggled to find pet-friendly establishments and access on-the-go pet sitting services. This real-life experience served as the catalyst for the PetVenture Project, driving us to address these pain points effectively.

Facts and figures further underscore the magnitude of the challenge. *In Spain alone, the pet ownership rate stands at 27% of the households for dogs & 17% of the households for cats as of 2022* [1], reflecting a growing trend across Europe and globally. *With over 9 million pet dogs and an estimated 5.8 million pet cats in Spain alone as of 2024* [2], the pet care market represents a substantial opportunity for innovation and disruption. Just to put things into perspective, *Spain has twice as many pets than children less than 15 years of age* [3]. Despite this vast market potential, there remains a significant gap in accessible and convenient pet care services, highlighting the need for initiatives like PetVenture to bridge this divide.

3.2. Project Objectives
- **Developing an Integrated Pet Care Platform:** Our primary objective is to create a cohesive platform that integrates various pet-related services based on thorough research findings. By leveraging user-centric design principles, our aim is to provide a seamless experience for pet owners and service providers, facilitating easy access to pet-friendly establishments, on-the-go pet sitting services, and a marketplace for pet products and services. This objective aligns with the concept of scope management, where we define the boundaries of our project without limiting ourselves to a specific solution. It's about staying open to different possibilities and finding the best way to meet our objectives.
- **Enhancing User Experience and Accessibility:** We're committed to improving the overall pet care experience by prioritizing user experience, design, and accessibility. Through intuitive interface design, personalized recommendations, and robust communication features, our objective is to empower pet owners to navigate the platform effortlessly and find solutions to their pet care needs with ease. This objective emphasizes stakeholder management, where we prioritize the needs and preferences of our users and service providers. By focusing on improving their experience, we aim to maximize satisfaction and engagement throughout the project.

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- **Adopting a Hybrid Project Management Approach for Optimal Flexibility:** Our objective is to leverage a hybrid project management approach throughout the project lifecycle to maximize flexibility and efficiency. In Phases I and II, we will employ Agile methodology to accommodate the evolving understanding of market requirements and adapt the solution accordingly. As we progress to Phase III, where a clearer understanding of the end product emerges, we will transition to a predictive project management model to ensure precise execution and timely delivery. Post-implementation, during maintenance and support phases, we will revert to an Agile approach, enabling iterative enhancements and continuous alignment with end-user expectations. This approach allows us to strike a balance between adaptability and predictability, ensuring successful project outcomes while maintaining responsiveness to changing needs and market dynamics.

3.3. Project Structure

In this section, we outline the structure of the PetVenture project, detailing the phases completed so far and the planned activities for the future. The project structure encompasses various components, including scope, management methodology, roles and responsibilities, schedule, entry and exit requirements, communication, conflict management, change management, expected outcomes, and project management considerations.
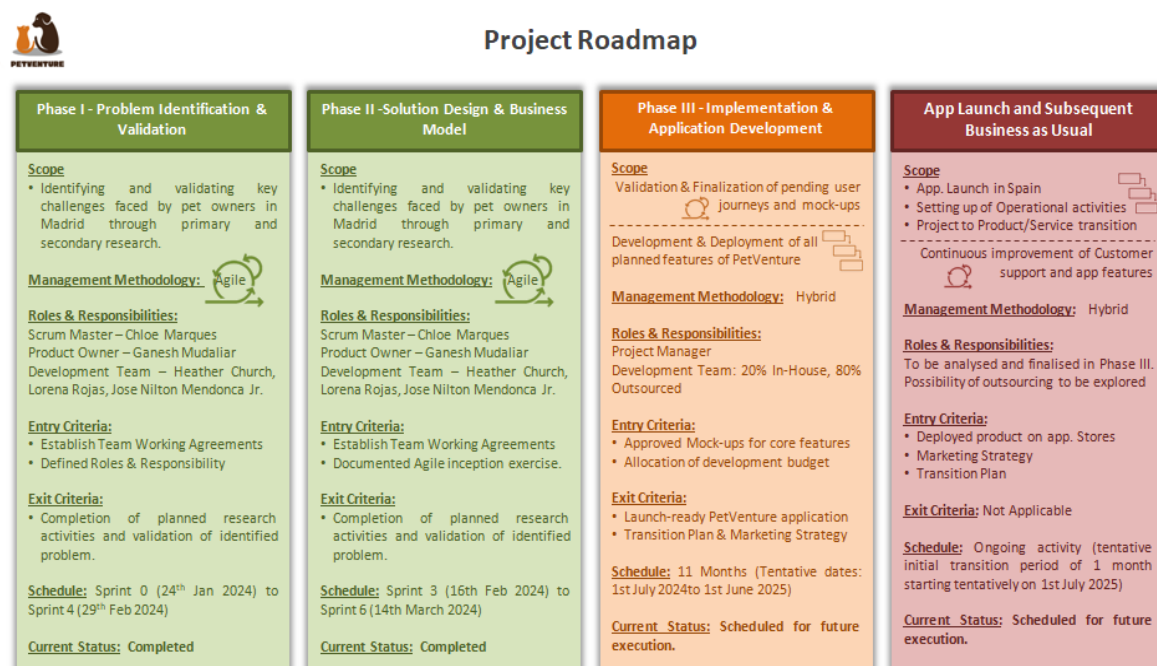
Figure 1: PetVenture Project Roadmap

3.3.1. Phase I: Problem Identification & Validation

- **Scope:** Identifying and validating key challenges faced by pet owners in Madrid through primary and secondary research.
- **Management Methodology:** Agile methodology with weekly Sprints
- **Roles & Responsibilities:**
  - ❖ Scrum Master: Chloe Marques
  - ❖ Product Owner: Ganesh Sudershan Mudaliar
  - ❖ Development Team: Heather Church, Lorena Rojas, Jose Nilton Mendonca Jr.

- o **Entry Requirement:** Commencing the phase after establishing team working agreements and roles and responsibilities.
- o **Exit Requirement:** Completion of planned research activities and validation of identified problems.
- o **Schedule:** Sprint 0 (24th Jan 2024) to Sprint 4 (29th Feb 2024)
- o **Current Status:** Completed.

3.3.2. Phase II: Solution Design & Business Model

- o **Scope:**
  - ❖ Develop a Business model canvas.
    - Monetization strategy
    - Revenue & Cost Projections
  - ❖ Designing a comprehensive solution for PetVenture with MVP feature Mock-ups including:
    - Pet owner user journey
    - Customer Support
    - Basic App customization: User/pet profile, preferences and notifications etc.
    - Find & Explore Pet friendly establishments
    - Find, Explore, Review & Pay Pet sitters
      - ✓ On-The-Go (Hourly billing cycle)
      - ✓ Scheduled (short term i.e. Hourly, Day/overnight billing cycle)
      - ✓ Scheduled (long term i.e. 2 days to 10+ days billing cycle)
- o **Management Methodology** Agile methodology with weekly Sprints
- o **Roles & Responsibilities:**
  - ❖ Scrum Master: Chloe Marques
  - ❖ Product Owner: Ganesh Sudershan Mudaliar
  - ❖ Development Team: Heather Church, Lorena Rojas, Jose Nilton Mendonca Jr.
- o **Entry Requirement:** Starting the phase after approval of problem validation results and completion of "Agile Inception" exercise.
- o **Exit Requirement:** Finalization of the solution design and Mock-ups for MVP and business model canvas.
- o **Schedule:** Sprint 3 (16th Feb 2024) to Sprint 6 (14th March 2024)
- o **Current Status:** Completed.

3.3.3. Phase III: Implementation & Application Development

- o **Scope:**
  - ❖ Research, Validation & Finalization of user Journeys for:
    - Pet Sitter App Users
    - Business Establishment Users (Pet Products and services)
    - Pet Friendly Establishment Users
  - ❖ Finalization of Mock-ups for remaining Features (for future Enhancement):
    - Pet owners forum & socializing feature
    - Pet events calendar
    - Pet product and service marketplace
    - Pet wearable device integration (3rd Party Device integration)
  - ❖ Developing and deploying the PetVenture mobile app, integrating all planned features and functionalities.

o **Management Methodology:**
  ❖ Adopting a hybrid approach wherein the activities related to Validation of user journeys and mock-ups will be executed in an Agile way given the uncertain nature of the expected output.
  ❖ Implementation and application development would be done in a predictive waterfall method as we have a clear understanding of the final solution and product, which we have validated in an Agile method in Phase II and at the start of Phase III.

o **Roles & Responsibilities (Implementation & Application development):**
  ❖ Project Manager
  ❖ Development Team (consisting of Mobile app developers & Quality assurance professionals)

o **Entry Requirement:** Initiating the phase after approval of app features, mock-ups and acceptance criteria. Allocation of development resources and budget.

o **Exit Requirement:** Launch-ready PetVenture app with all planned features implemented. Transition Plan (PetVenture Project to PetVenture Product & Service).

o **Schedule:** 11 Months (Tentative dates: 1st July 2024to 1st June 2025)

o **Current Status:** Pending. Scheduled for future execution.

3.3.4. App Launch and Subsequent Business as Usual

o **Scope:**
  ❖ Official Marketing & Launch of the PetVenture in Spain
  ❖ Setting up of Support and Operations Team
  ❖ Project transitioning to business as usual activities:
    • Ongoing customer support
    • Technical & non technical maintenance
    • Operational support
    • Releasing new features / bug fixes / application enhancements
    • Ongoing Marketing drive to meet monthly / quarterly / annual targets
    • Legal / Finance / HR routine and/or exceptional operations

o **Management Methodology:** Agile Methodology with 2 week Sprint cycles for App enhancement / bug fixes / new features etc.

o **Roles & Responsibilities:** These will typically Involve technical and customer support teams, maintenance engineers, Product managers, Finance team, HR & Legal Team, Operations team etc. for post-launch operations. However, these will be closely reviewed and finalised during the Phase III execution as outsourcing certain activities is something we would want to analyse taking into account cost to benefit ratio and other tools and metrics.

o **Entry Requirement:**
  • Deployed PetVenture Product on Android, iOS app stores and website
  • Finalised Marketing Strategy and Approved budget for app launch
  • Transition Plan: Transitioning to this phase after successful app deployment and allocation of support resources & budget

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- o **Exit Requirement:** This will be an ongoing activity of continuous operation and improvement to the PetVenture platform post-launch. In essence, at this stage PetVenture no more remains a project in itself but will be a Product in its "Product Lifecycle". It will be replaced by a new "product development" project or a significant revamp of PetVenture as a new project.
- o **Schedule:** Ongoing activity (tentative initial transition period of 1 month starting tentatively on 1st July 2025)
- o **Current Status:** Pending. Scheduled for future execution.

4. Phase I: Problem Identification & Validation

In this section, we outline our comprehensive approach to gathering and analyzing data to inform the development of our pet-oriented platform. We begin by detailing our primary research methodology, encompassing survey design, distribution, data collection, analysis, limitations, and ethical considerations. Following this, we delve into the validation of results, where we scrutinize both quantitative and qualitative findings from our survey to confirm key insights. Additionally, we explore secondary market research conducted to complement our primary findings and provide broader industry context. Finally, we discuss project management considerations for Phase I of the project, outlining key steps and milestones for the initial development phase of our application. Through this multifaceted approach, we aim to ensure a robust foundation for the successful implementation of our project.

4.1. Primary Research Methodology

We begin by diving into the primary research methodology employed to gather insights into the preferences and behaviours of pet owners in Madrid. Through a comprehensive survey, we aimed to understand various aspects of pet ownership, including pet-friendly establishment preferences, experiences with pet-sitting services, and desired features in a pet-oriented mobile application. The following subsections outline the survey design, distribution, data collection, analysis methods, limitations, and ethical considerations associated with our research approach

4.1.1. Survey Design

We designed the survey to capture a wide range of information related to our research objectives. It consisted of eleven questions designed to gather information on pet ownership and behaviour, including multiple choice and short-answers. The questions covered many aspects such as the number and type of pets owned, frequency of pet-friendly outings, use of pet-sitting services, and preferences for features in a pet-sitting application. Our goal with the survey structure was to retrieve data thoroughly while ensuring clarity and ease of response for participants. A copy of our survey questionnaire is available in the appendix section *8.2.3 Survey Questionnaire* at the end of this document.

4.1.2. Distribution & Data Collection

To ensure a broad reach and diverse participation, we employed a multifaceted approach to distribute the survey. Leveraging the accessibility and user-friendly interface of Google Forms, we electronically disseminated the survey through various channels. These included Universidad Europea, tapping into academic networks, as well as utilizing our personal connections within the pet owner community and leveraging word-of-mouth referrals.

The survey remained open for a duration of forty-four days, allowing ample time for participants to engage with the questionnaire and provide thoughtful responses. Through this extended period, we aimed to maximize response rates and capture a wide spectrum of perspectives from pet owners across different demographics.

In total, we collected 35 responses, reflecting a diverse range of insights and experiences from pet owners in Madrid. This data collection process, combined with our strategic distribution efforts, ensured a robust sample size for comprehensive analysis and interpretation of findings.

4.1.3. Data Analysis

We analyzed responses to collect key insights into pet ownership trends and behaviours, aligning with PetVenture's strategy to develop a user-friendly application that addresses the evolving needs of pets and their owners. The data analysis is discussed at length in the subsequent section *(4.2 Validation of Results).*

4.1.4. Limitations

While we aimed for a reliable survey, it's essential to recognize its limitations. One concern is the potential for biases since participants reported their own data. For instance, Individuals might exaggerate how often they use pet-sitting services. Another issue is that our sample might not represent all pet owners in Madrid. If we primarily reached out to young people, we might miss the perspectives of older pet owners. Additionally, since our survey only captured a snapshot in time, we can't say for sure that one thing caused another. For example, if we found that people who use pet-sitting services tend to go out more, we cannot determine if using the service causes them to go out or if they already went out a lot and thus needed the service. These limitations remind us to interpret the findings carefully and recognize that there may be more to the story than our survey captured.

4.1.5. Ethical Considerations

We took ethical considerations into account during the survey process to ensure participant privacy, confidentiality, and informed consent. We provided participants with clear information regarding the purpose of the survey, voluntary participation, and the handling of their responses.

4.2. Validation of Results

In this section, we present the findings from our primary research, focusing on validating the demand for on-the-go pet sitting services and the need for a pet-friendly establishment finder. The survey responses not only confirm these demands but provide insights into additional features that pet owners might find valuable. By analyzing these results, we can better align our app's features with the actual needs and preferences of pet owners in Madrid. A copy of our survey responses is available in the appendix section *8.2.4 Survey Responses* at the end of this document.

4.2.1. Demographics of Test Subjects

Among the total respondents, 26% were cat owners, 80% were dog owners, and 11% owned both a dog and a cat. Regarding the number of pets, 60% owned a single pet, 20% owned two pets, and 20% owned three or more pets. Notably, **51% of pet owners reported taking their pets out at least once a week**, indicating a high level of engagement with their pets.

When it comes to utilizing pet-sitting services, **46% of respondents had previously used such services**. The survey revealed that **51% of pet owners identified convenience and reliability,** including previous positive experiences, reputation, and reviews**, as significant factors influencing their decision to opt for pet-sitting services**. Additionally, **71% highlighted practical considerations,** such as work or travel obligations, lack of pet-friendly accommodations, and emergency situations**, as the primary reasons for seeking pet-sitting services**. These insights underline the importance of trust and practicality in the decision-making process for pet owners.
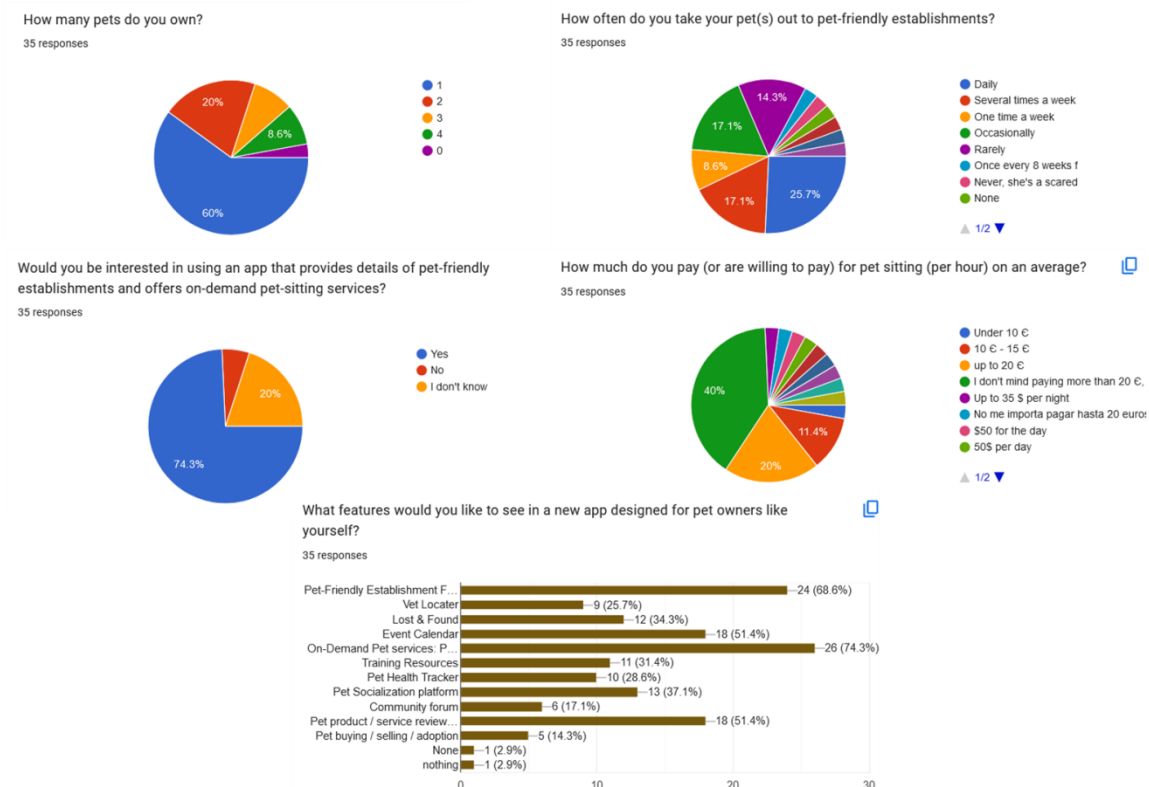
Figure 2: Key Survey Findings.

4.2.2. Standout Features of Interest

Our survey results strongly support our hypothesis regarding the demand for specific features in a pet owner application Notably, **74% of respondents expressed interest in on-demand pet sitting services**, indicating a significant need for convenient and reliable pet care solutions. Additionally, **69% of participants showed interest in a pet-friendly establishment finder**, underscoring the importance of easily locating places suitable for pets.

4.2.3. Additional Features of Interest

Other features garnered notable interest among respondents. **51% expressed interest in a pet event calendar**, suggesting a desire for organized and accessible information on pet-related activities. Similarly, **51% were interested in pet product/service purchase and review**, emphasizing the potential value of an integrated marketplace for pet-related goods and services. Furthermore, **37% showed interest in pet lost and found**, highlighting the importance of tools for reuniting lost pets with their owners. Finally, **37% expressed interest in a pet socializing platform**, indicating a desire for opportunities to connect with other pet owners and facilitate social interactions among pets. These findings provide valuable insights into additional features that could enhance the app's utility and user experience. Further research and development in these areas could address the diverse needs and preferences of pet owners, thereby increasing the app's appeal and effectiveness.

4.2.4. Financial Considerations & Willingness to Pay

Our survey shed light on the financial considerations of pet owners regarding pet care services. A notable **31% of respondents indicated a willingness to pay between 10 € to 20 € per hour for pet sitting services**, emphasizing the value they place on quality care for their beloved companions. Moreover, **40% expressed a readiness to pay over**

20 € per hour if they could monitor their pets' well-being remotely, underlining the significance of advanced monitoring features in determining perceived value. Additionally, **11% of participants found a range of 35 € to 50 € for a day or overnight stay to be reasonable**, suggesting a segment of pet owners willing to invest more for extended care periods. These insights into financial preferences provide valuable guidance for pricing strategies and service offerings within the app, ensuring alignment with users' expectations and budgetary considerations.

4.2.5. Conclusion

In summary, our survey of 35 respondents revealed key insights into pet owner preferences. Demographically, most were dog owners (80%), with a significant portion also owning cats (26%). The standout services were a Pet-friendly Establishment Finder (69% interest) and On-Demand Pet Sitting Services (74% interest), validating our hypothesis. Other notable features included a Pet Event Calendar and Pet Product/Service Purchase and Review platforms. Financially, respondents showed varied willingness to pay, with **74% expressing keen interest in an integrated app covering both pet-friendly establishments and on-the-go pet sitting services**. These findings highlight the demand for comprehensive pet care solutions that cater to diverse needs and preferences.

4.3. Secondary Research – Market

In this section, we delve into the broader context of the pet care & service industry, examining pet population demographics, market trends, and Spain's position in the global landscape. Understanding these factors is crucial for positioning our solution effectively and catering to the evolving needs of pet owners.

4.3.1. Pet Population & Pet Ownership Demographics

Globally, pets hold a significant place in our lives, with dogs and cats being the most common domestic companions. The United States leads in pet ownership, with approximately 70 million domestic dogs and 74 million domestic cats. [2] Europe, where Spain stands out as a pet-loving nation, boasts a pet dog ownership per capita of 9.3 million dogs.[1] Additionally, Spain has approximately 53 million pet cats within its borders. The European continent as a whole reflects this trend, with 127 million cats and 104 million dogs in 2022. [2]
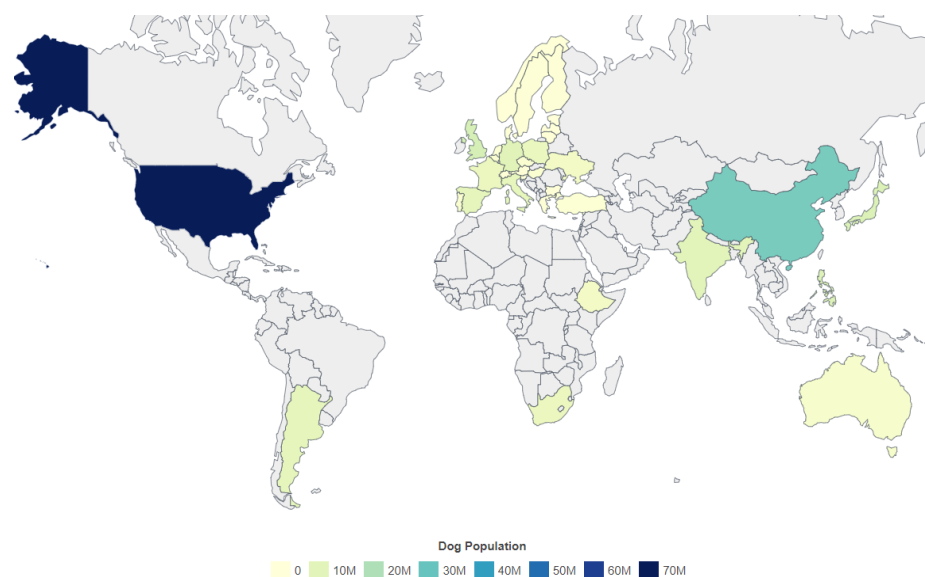
Figure 3: Global dog population distribution. [2]

It's fascinating to observe the changing demographics of pet ownership in Madrid. Our research revealed that individuals aged 25 to 44 are the main pet owners in the city. While millennials and Gen Z received attention for adopting pets during the pandemic, Individuals aged 30 to 44 saw a significant increase in pet care spending. Surprisingly, folks aged 55 to 64 are also big spenders on pet care. They mostly prefer shopping in stores rather than online. Understanding the shopping habits of these diverse age groups can facilitate the tailoring of solution to better reach them. [4]

Pet Care & Services Market Size & Trends
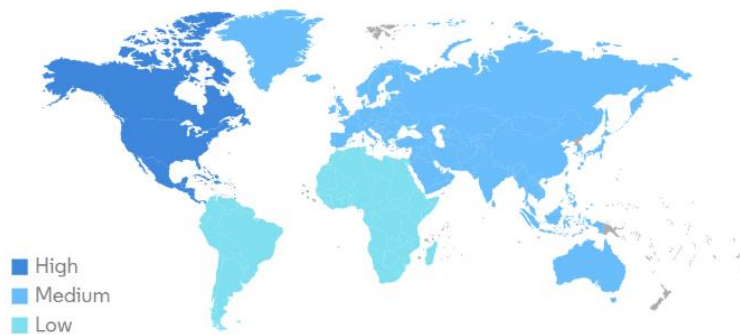
Figure 4: Pet Service Market: Growth Rate (2022-2027) [5]

The pet care services industry is experiencing robust growth globally, driven by factors such as pet humanization and the increasing demand for professional services. By 2029, the market is projected to reach USD 31.57 billion, growing at a compound annual growth rate (CAGR) of 5.40%. In 2021, the United States' total pet industry expenditures reached USD 123.6 billion. Europe's pet market was worth USD 5.75 billion in 2023 and is estimated to reach USD 9.26 billion by 2029, growing at a CAGR of 8.24%. The Asia-Pacific region, including countries like Australia, is also witnessing a surge in pet adoption and related services. [5]

4.3.2. Pet Care App Market Size & Trends

Pet care apps are mobile applications designed to assist pet owners in managing and maintaining the health, well-being, and needs of their pets. These apps are typically available for Smartphones and tablets, serving various purposes related to pet care. According to HTF Market Intelligence, the global pet care apps market is expected to grow at a robust rate of 18.14% and may reach a market size of USD 6,467.28 million by 2030, currently pegged at USD 2,013.85 million1. This growth is driven by the increasing trend of pet adoption and the demand for accessible and innovative ways to care for animals. [6]
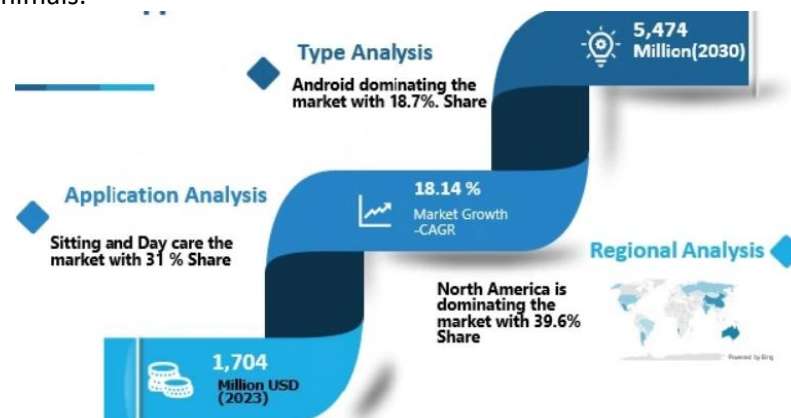
Figure 5: Pet Care Apps Market Overview. [6]

4.3.3. Spain's Position in the Global Picture

Spain's strategic significance in the pet care landscape stems from its substantial pet dog ownership and a growing cat-loving population. The market is supported by premiumization, with pet owners investing in high-quality products and services. Spain's pet-loving culture and growing awareness of pet well-being make it an ideal launch pad for "PetVenture", positioning our app strategically within this dynamic market. [7]

As we embark on our journey to develop an integrated pet care platform, the insights gathered from secondary market research underscore the importance of understanding global pet care trends, user behaviours and Spain's unique position within this landscape. With a focus on pet-friendly establishments and on-the-go pet sitting services, we conclude that a mobile app will be the right medium to cater to the evolving needs of pet owners, leveraging Spain's vibrant pet-loving community and growing market globally. By harnessing the power of technology and community engagement, we are poised to create an app that truly enhances the lives of pets and their owners in Madrid and beyond.

4.4. Project Management Consideration – Phase I

In this section, we look into how we managed our PetVenture project during Phase I, which was all about understanding what pet owners in Madrid really need. In this Phase, we focused on building a strong foundation for our project. Since we didn't fully understand the problem or solution at the start, we chose an Agile approach with weekly Sprint cycles. Here's how we organized things to make sure we were on track:

4.4.1. Scope Definition

First off, we needed to figure out what exactly we were looking for. So, we decided to focus on Heather's pain points, as a pet owner, to be our starting point. We then focused on tailoring a primary research approach supplemented with primary market research to validate our hypothesis. The goal was to find out the main challenges faced by pet owners in Madrid. We wanted to dig deep into their world to understand their needs and what could make their lives easier.

- **In-Scope:**
    - Team Working Agreement & Identity
    - Secondary market research (Spain, Europe, and globally) for:
        - Pet Care (service & products) industry landscape
        - Pet and pet ownership demographics
        - Pet care app industry
    - Primary market research (design, execution, and analysis) to identify & validate the pain points that pet owners in Madrid face with pet care.
    - Documenting the research findings
- **Out of Scope:**
    - Deciding, defining and or designing any kind of solution for the pain points

4.4.2. Management Methodology

To keep things moving smoothly, we opted for an Agile approach. This meant breaking our work into smaller parts and tackling them one by one. With weekly Sprints, we could adapt quickly if we needed to change our plans based on what we discovered. All the Sprint events (i.e. Sprint Planning, Daily Scrum, Sprint Review, Sprint Retrospective) were adhered to and executed as per the weekly schedules.

4.4.3. Roles & Responsibility

Everybody in our team had a specific role to play. Chloe Marques took on the role of Scrum Master, making sure the Agile principles were understood and implemented across the team. Ganesh Sudershan Mudaliar was our Product Owner, deciding what the course of action would be, by listing and ranking work items in the product Backlog. Heather Church, Lorena Rojas, and Jose Nilton Mendonca Jr. made up our Development Team, turning our plans and ideas into reality. It must be noted that, both Chloe & Ganesh operated as development team members and actively contributed in the development work as well. The development team, in consultation with the Product Owner, would pick work items into the Sprint Backlog and work towards delivering value by the end of the Sprint.

4.4.4. Timelines & Milestones

Every week, we kicked off with Sprint Planning using poker cards to estimate effort and select work items from the Product Backlog into the Sprint Backlog. We had Daily Scrums to keep everyone on the same page, and each Sprint ended with a Sprint Review and a Sprint Retrospective. Our Product Owner managed the Product Backlog, and we all contributed to refining it regularly. During Phase I, from Sprint 0 to Sprint 4, we worked on establishing our team's identity and working agreements, brainstorming business ideas and real-world problems to solve, choosing a management tool, and conducting primary, secondary, and competitor research. This led us to analyze and select the best idea to take forward into Phase II.

Phase & Activity	Sprint 0 (24 Jan - 31 Jan)	Sprint 1 (1 Feb - 8 Feb)	Sprint 2 (9 Feb - 15 Feb)	Sprint 3 (16 Feb - 22 Feb)	Sprint 4 (23 Feb - 29 Feb)
Sprint Events	SP DS DS H H DS DS SR SRT	SP DS DS H H DS DS SR SRT	SP DS DS H H DS DS SR SRT	SP DS DS H H DS DS SR SRT	SP DS DS H H DS DS SR SRT
Phase I: Problem Identification & Validation					
Team Identity & Working Agreements					
Ideation					
Research for Sprint Management Tools					
Market Survey (Primary Research)					
Market Research (Secondary)					
Competitor Research (Secondary)					
Analysis & Idea Selection					

SP	Sprint Planning	H	Holiday
DS	Daily Scrum	SR SRT	Sprint Review & Sprint Retrospective

Table 1: Phase I - Schedule & Milestones.

4.4.5. Risk Management

In Phase I, we focused on setting up the basics of our project. Since we were dealing with many unknowns and figuring things out as we went, managing risks was really important. We identified several risks that could affect our progress. By assessing how likely each risk was and how much it could impact us, we created strategies to handle them. This helped us stay clear and on track while minimizing disruptions early on.

Risk	Impact	Impact Level	Likelihood	Mitigation Strategy
Unclear Team Roles and Responsibilities	Confusion and inefficiency in team operations	High	High	Establish clear roles and working agreements during Sprint 0, and regularly review and adjust.
Inadequate Understanding of the Problem Space	Misalignment with business needs and solution direction	High	High	Conduct thorough primary and secondary research, and engage in regular discussions and ideation sessions.
Selection of Ineffective	Reduced productivity and poor project	Medium	Medium	Research & trial multiple management tools, gather team feedback, & choose

Risk	Impact	Impact Level	Likelihood	Mitigation Strategy
Management Tool	tracking			the one that best fits our workflow.
Insufficient Competitor Analysis	Lack of competitive edge and potential market misfit	Medium	Medium	Dedicate specific Sprints for in-depth competitor research and integrate findings into idea selection process.
Inaccurate Effort Estimation	Sprint Planning issues and potential delays	Medium	Medium	Use poker card methods for estimation and refine estimates based on Retrospective feedback.

Table 2: Phase I - Risks & Mitigation Strategies

4.4.6. Communication Plan

Team collaboration was made possible through the use of **Microsoft Teams** for meetings and file sharing via **SharePoint**. We also used **Microsoft Planner for Teams** to track activity status and the progress of work. In terms of communication, **emails**, **WhatsApp group chats**, and **Teams chats** were the preferred channels. WhatsApp was used for operational updates, quick coordination, and addressing challenges. Emails acted as a formal mode of documenting and communicating any critical new understandings, major milestones, or deliverables. Teams meetings were used both for planned Sprint events and collaboration, as well as impromptu sessions for solving issues. We also had regular **face-to-face meetings** and collaboration sessions, both planned and on an as-needed basis.

4.4.7. Monitor & Control

To ensure we stayed on track, we had a robust monitoring and control process in place. Sprint Planning was generally completed in person at the start of each new Sprint, an hour before university classes began on Mondays. Daily Scrums were conducted in person or remotely, 15 minutes prior to our classes during weekdays. Sprint Reviews were held on Fridays, half an hour before classes at the university, followed by the Sprint Retrospective conducted during class every Friday. Additionally, we used **Microsoft Planner in Teams** to monitor and control our activities. This tool helped us keep track of tasks, progress, and any issues that arose, allowing us to adjust our plans as needed to ensure we met our project goals.

4.4.8. Deliverables

Finally, we had several key deliverables for Phase I:

- **Comprehensive Secondary Market Research Document:** This provided an overview of existing market trends and insights related to pet care.
- **Questionnaire for Primary Market Research Survey:** This was designed to gather detailed information from pet owners in Madrid about their needs and challenges. You can refer to the survey questions in the Appendix section *8.2.3 Survey Questionnaire*.
- **Survey Response Spreadsheet:** We compiled all the data collected from the survey into a structured spreadsheet for analysis. You can refer to the survey response in the Appendix section *8.2.4 Survey Responses*
- **Analysis Document of Primary Market Research Survey:** This document detailed the insights and conclusions drawn from the survey data.

5. Phase II: Solution Design & Business Model

In Phase I of our project, we meticulously examined the challenges encountered by pet owners worldwide and in Spain, including the struggle to find pet-friendly establishments, secure reliable pet sitting services, and facilitate meaningful social interactions for their pets.

Drawing insights from the comprehensive market research and survey data, we identified a pressing need for a centralized platform that addresses these pain points. Consequently, Phase II of our project focuses on the design and implementation of a comprehensive solution - a mobile application tailored to address the diverse needs of pet owners.

5.1. Application Features, Functionalities & Tools Used

In developing our pet care mobile application, we've meticulously designed a range of features and functionalities to cater to the diverse needs of pet owners. This comprehensive suite aims to streamline pet care, enhance user experience, and foster a pet-friendly community.

5.1.1. MVP Features

The following features will be part of the MVP prototype of the PetVenture application. You can find and navigate through the high level mock-up prototype by using this link. You will also find the mock-up screens at the end of this document in a higher image detail.

5.1.1.1. Pet-Friendly Establishment Finder

Our application integrates a robust feature that empowers pet owners to effortlessly locate pet-friendly establishments in their local vicinity. Utilizing geo-location technology and comprehensive databases, users can quickly identify restaurants, cafes, parks, and hotels that welcome pets. This feature provides detailed information regarding pet policies, reviews, menus, photos, and other tailored information, enabling users to make informed decisions when planning outings. By consolidating pet-friendly venues onto a single platform, we eliminate the hassle associated with scouring multiple sources for pet-friendly options, thereby enhancing the overall user experience and fostering a pet-friendly community.
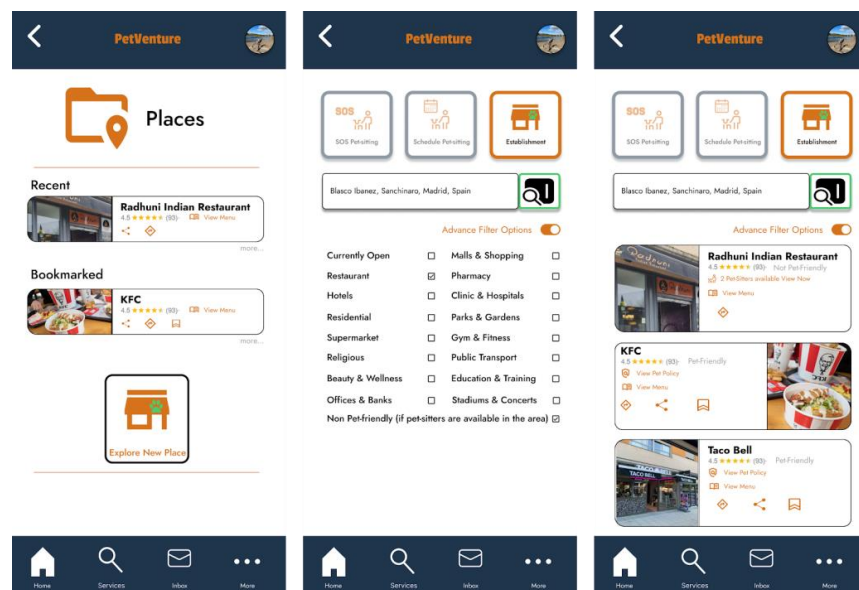
Figure 6: Mock-up screens for "Pet Friendly Establishment Finder" feature.

5.1.1.2.   Pet Sitter finder

Recognizing the demand for reliable pet care solutions, our application offers a convenient platform for pet owners to access on-demand pet sitting services. Through a user-friendly interface, individuals can browse profiles, view ratings, reviews, and qualifications of trusted pet sitters available in their vicinity and choose their desired professional to take care of their pet by requesting immediate services or scheduling it in advance. By facilitating the communication and transactions, our platform bridges the gap between pet owners and pet sitters, ensuring peace of mind for users leaving their pets in capable hands. This feature not only addresses the need for reliable pet care but also fosters a sense of trust and accountability within the pet care community.
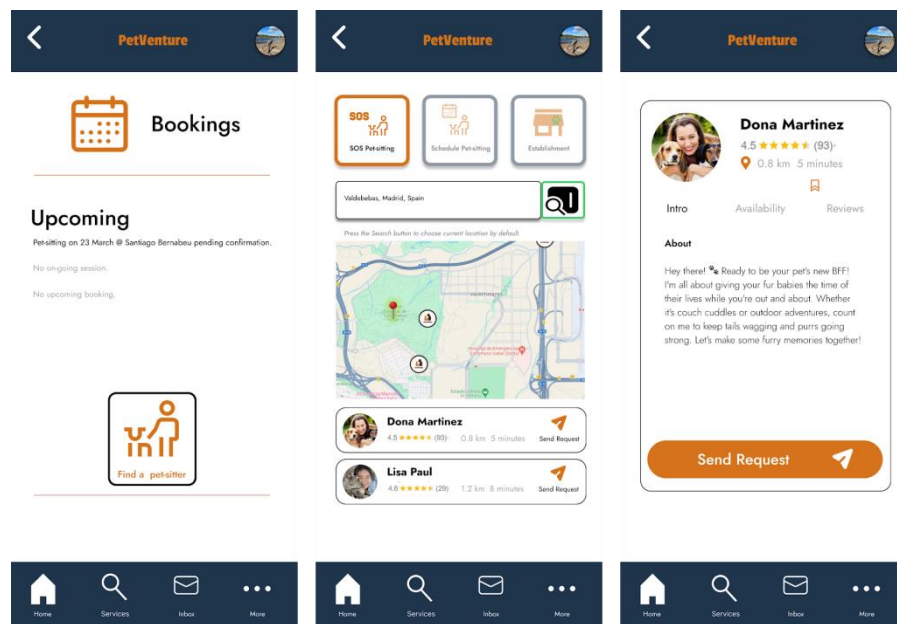
Figure 7: Mock-up screens for "Pet Sitter Finder" feature (1/2).
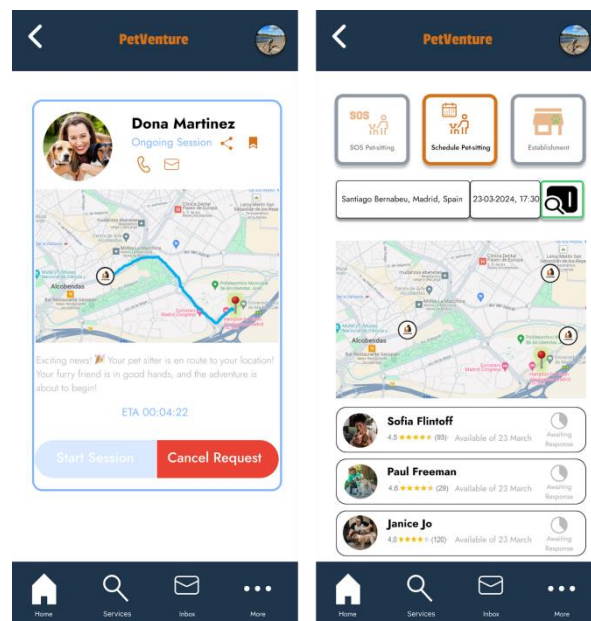
Figure 8: Mock-up screens for "Search Pet Sitter" Feature (2/2).

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5.1.1.3. User Support, FAQs, and AI Bots

To enhance user experience and provide timely assistance, our application integrates AI-powered chat-bots, powered by GeminiAI, to address frequently asked questions and troubleshooting questions and doubts. By utilizing the capabilities of artificial intelligence, we ensure 24/7 support, offering users instant access to relevant information and solutions. Additionally, our platform features a comprehensive knowledge base comprising of FAQs, empowering users to resolve common issues independently. In instances where human intervention is required, our support system facilitates real-time escalation to human agents by utilizing the "Chat with us" system.
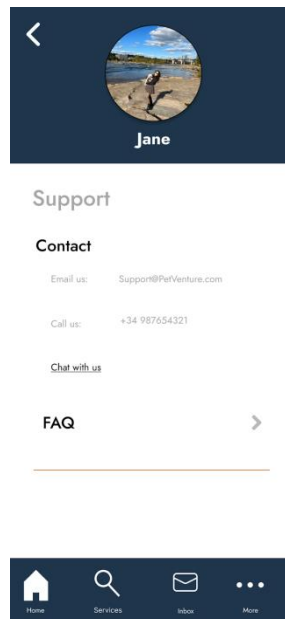
Figure 9: Mock-up screen for "User Support, FAQs & AI Bots" Feature.

5.1.1.4. Multiple Payment Options

Recognizing the importance of flexibility and convenience in modern transactions, our application offers multiple payment options, including credit card, PayPal, and Apple Pay. By accommodating diverse payment preferences, we cover the needs of a broad user base, facilitating seamless transactions and enhancing user satisfaction. Whether users prefer traditional credit card payments or opt for modern digital payment solutions such as PayPal, our platform ensures a secure and hassle-free payment experience.
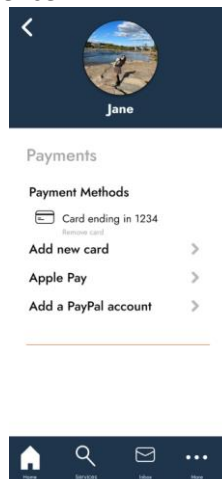
Figure 10: Mock-up screen for "Multiple Payment Options" Feature.

5.1.1.5.   Flexible Login System

To streamline user onboarding and enhance accessibility, our application features a flexible login system that supports various authentication methods, including Google, Apple, email, and password. Offering multiple login options, we adhere to users' preferences while prioritizing convenience and security.

5.1.1.6.   Service History

To facilitate management of pet care activities, our application features a service history module. This functionality allows users to access detailed records of past transactions, services, and interactions within the platform.

5.1.1.7.   Pet Registration

Users are able to register their pet(s), detailing information about them such as: food preferences, habits, behaviours, medical history, and pertinent information that would help Pet Sitters to have a snapshot of what they should be wary of and how they should behave when pet sitting.
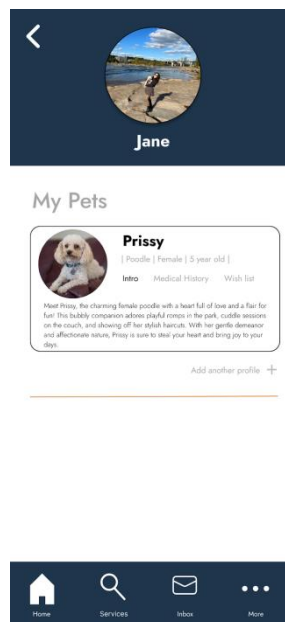
Figure 11: Mock-up screen for "Pet Registration" feature.

5.1.2.   Features Outside of MVP scope

5.1.2.1.   Pet Products & Services Marketplace

In line with evolving consumer preferences and market trends, our application hosts a dynamic marketplace where businesses can list products and services focused on pet owners. By offering a diverse array of pet-related offerings, including food, accessories, grooming services, and veterinary care, our platform serves as a one-stop destination for all pet care needs. Through user reviews, feedback, and ratings, we facilitate informed decision-making, empowering users to select products and services that best suit their pets' requirements.

5.1.2.2.   Pet owner & Pet Socializing

Understanding the importance of socialization for pets' well-being, our application facilitates meaningful interactions between pet owners through organized play-dates and a messaging feature. Our platform fosters a vibrant community where

pets can engage in enriching experiences. Whether arranging play-dates at pet-friendly establishments or organizing social gatherings within specified areas, our platform promotes socialization and companionship, thereby enhancing the overall quality of life for pets and their owners.

5.1.2.3.   Pet Lost & Found

A compassionate solution designed to swiftly reunite lost pets with their owners. With this feature, app users can report missing pets, providing crucial details such as last seen location, a photograph, and any special needs. This information is then broadcasted to all app users, including pet owners and pet sitters, fostering a community-driven effort to locate and reunite pets with their families. Together, we can harness the collective power of our network to ensure every lost pet finds its way home.

5.1.2.4.   Pet Wearable Device Pairing

One of our upcoming features that we are really excited about is a special pet wearable device like never before. It's not just about tracking your pet's health and location; it's about using technology to help pets connect and make new friends. Imagine your pet wearing a smart device that not only keeps them safe but also suggests new friends based on their previous positive interactions. This idea is still in the works, but we're excited about the potential it holds to change how pets socialize. Stay tuned for updates as we work on bringing this innovative concept to life!

Figure 12: Conceptual designs for our pet wearable devices.

5.1.2.5.   Establishment Bookings & Reservations

An additional functionality allowing users to book and make reservations directly within pet-friendly establishments listed on the platform. Through integration with booking systems or APIs such as Booking API and OpenTable API, users can secure their spot in restaurants, cafes, parks, and hotels that welcome pets.

5.1.2.6.   Establishment Feedback & Review

Users will have the ability to leave reviews and provide feedback for pet-friendly establishments they visit. Users can share their experiences, rate the pet policies, amenities, and overall pet-friendliness of the venue. This feature encourages

community engagement and transparency, helping other pet owners to make informed decisions when choosing where to take their pets.

5.1.2.7. Multi-lingual Support (Spanish and English)

Recognizing the diverse linguistic backgrounds of our user base in Spain, our application will offer language support in both Spanish and English. By accommodating users' language preferences, we can ensure accessibility to a wider range of users. Whether users are native Spanish speakers or prefer English as their primary language, our platform eliminates language barriers, facilitating clear communication, increasing and enhancing user engagement.

5.1.3. Tools Used

Our design team utilized professional design tools to create detailed mock-ups and prototypes:

5.1.3.1. Figma

Figma served as our primary design platform, allowing for collaborative creation and iteration of UI/UX elements. With its powerful features and real-time collaboration capabilities, Figma enabled coordination among team members and accelerated the design process.

5.1.3.2. FigJam

For brainstorming sessions, wireframing, and collaborative ideation, we employed FigJam. This versatile tool facilitated rapid prototyping and visualization of ideas.

5.1.3.3. Photoshop

Adobe Photoshop was instrumental in refining and polishing visual elements, ensuring pixel-perfect designs and high-quality graphics.

5.1.3.4. Canva

We utilized Canva to create mood boards, exploring colour palettes, experimented with design concepts to create our logos and other visuals.

In summary, our application's comprehensive suite of features and functionalities addresses the diverse needs and challenges faced by pet owners, offering a centralized platform for pet care, socialization, and support. By leveraging innovative technology and user-centric design principles, we aim to revolutionize the pet care industry, fostering a vibrant community cantered around the well-being and happiness of pets and their owners.

5.2. Business Model Canvas

In this section, we present the Business Model Canvas for PetVenture, outlining key components that drive our business operations, revenue generation, and value proposition to stakeholders. The Business Model Canvas serves as a strategic tool to visualize and communicate our business model in a comprehensive and structured format. The approach to designing the Business Model Canvas aligns with the principles of strategic management in project management. Concepts such as value creation, customer segmentation, revenue generation, and cost management are fundamental to developing a viable business model, ensuring alignment with academic curriculum objectives. Here's the elaboration of each component:
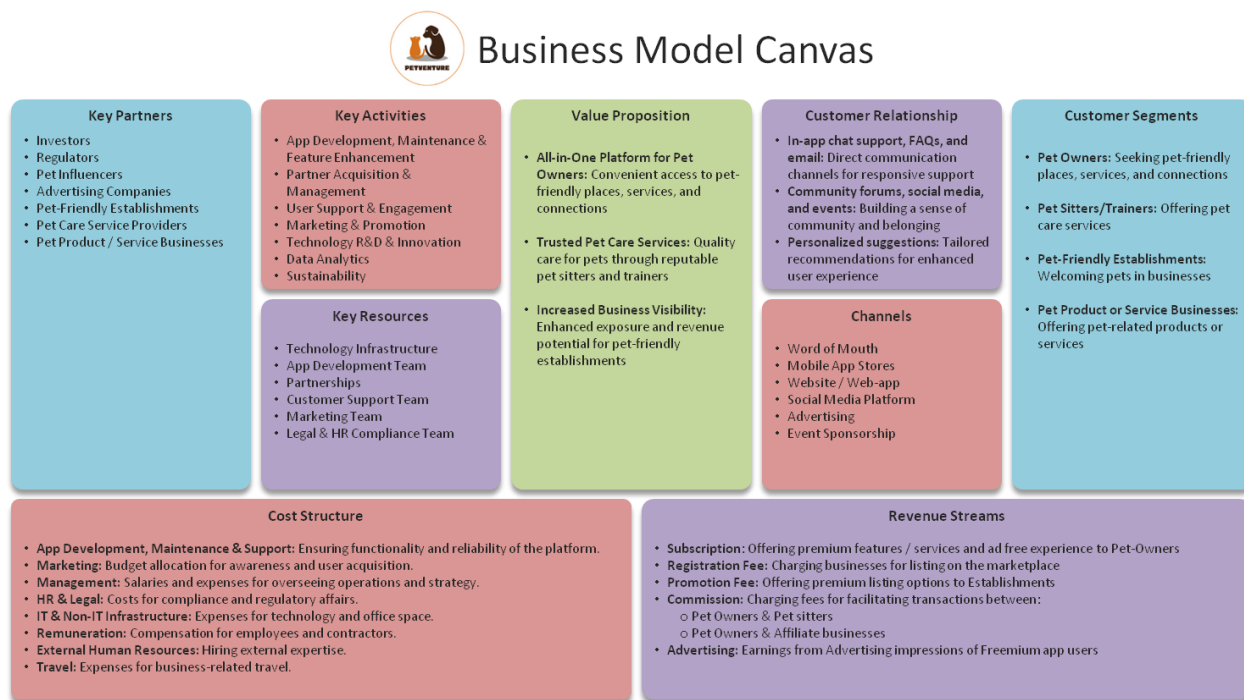
Figure 13: PetVenture- Business Model Canvas.

5.2.1. Key Partners

In this section, we identify and outline the crucial partners who contribute to PetVenture's success. These partners play pivotal roles in providing resources, expertise, and support necessary for the operation and growth of our platform. From investors providing financial backing to pet influencers amplifying our reach, each partner plays a vital role in enhancing our capacity to deliver value to both our users and stakeholders.

- **Investors:** Securing financial support and strategic guidance.
- **Regulators:** Ensuring compliance with legal and regulatory requirements.
- **Pet Influencers:** Amplifying marketing efforts and increasing user engagement.
- **Advertising Companies:** Generating revenue through targeted advertisements.
- **Pet-Friendly Establishments:** Expanding network and enhancing value proposition.
- **Pet Care Service Providers:** Offering a comprehensive range of services to users.
- **Pet Product/Service Businesses:** Enriching platform offerings and revenue opportunities.

5.2.2. Key Activities

The key activities section delves into the core operations that drive PetVenture's day-to-day functioning. From app development and maintenance to user support and engagement, each activity is essential for delivering a seamless and satisfying experience to our users. Our strategic focus on partner acquisition, marketing, and technology Research & Development (R&D) ensures that we stay ahead of market trends and continuously enhance our platform's offerings.

- **App Development, Maintenance & Feature Enhancement:** Ensuring seamless user experience & platform competitiveness.
- **Partner Acquisition & Management:** Actively seeking and managing partnerships to expand network and offerings.

- **User Support & Engagement:** Providing responsive customer support and fostering engagement for user satisfaction.
- **Marketing & Promotion:** Implementing targeted campaigns to raise awareness, drive user acquisition, and promote engagement.
- **Technology R&D & Innovation:** Investing in innovation to stay ahead of market trends and remain competitive.
- **Data Analytics:** Analyzing user data for strategic decision-making and product optimization.
- **Sustainability:** Incorporating sustainable practices with a long term vision for the business.

5.2.3. Key Resources

PetVenture relies on a diverse range of resources to support its operations and achieve its objectives. From robust technology infrastructure and skilled development teams to strategic partnerships and dedicated customer support, our resources enable us to deliver value to our customers and stakeholders. By effectively leveraging these resources, we ensure the scalability, reliability, and sustainability of our platform.

- **Technology Infrastructure:** Supporting scalability and performance of platform.
- **App Development Team:** Skilled professionals for creating and maintaining mobile application
- **Partnerships:** Collaborations with businesses and service providers to enhance user experience.
- **Customer Support Team:** Addressing user inquiries and issues promptly.
- **Marketing Team:** Driving user acquisition and engagement through effective marketing strategies.
- **Legal & HR Compliance Team:** Ensuring regulatory adherence and operational efficiency.

5.2.4. Value Propositions

Our value propositions represent the unique benefits and advantages that PetVenture offers to its customers and stakeholders. By providing a comprehensive platform for pet owners to find pet-friendly places and trusted pet care services, we address critical pain points in the pet care industry. Additionally, our platform enhances the visibility and revenue potential of pet-friendly establishments, creating value for businesses and service providers.

- **All-in-One Platform for Pet Owners:** Convenient access to pet-friendly places, services, and connections.
- **Trusted Pet Care Services:** Quality care for pets through reputable pet sitters and trainers.
- **Increased Business Visibility:** Enhanced exposure and revenue potential for pet-friendly establishments.

5.2.5. Customer Relationships

Customer relationships are at the heart of PetVenture's business model, fostering trust, loyalty, and engagement among our user community. Through various channels such as in-app support, community forums, and personalized recommendations, we strive to build strong and lasting relationships with our users. These relationships not only drive user satisfaction and retention but also serve as a foundation for future growth and success.

- **In-app chat support, FAQs, and email:** Direct communication channels for responsive support.
- **Community forums, social media, and events:** Building a sense of community and belonging.
- **Personalized suggestions:** Tailored recommendations for enhanced user experience.

5.2.6. Channels

The channels section outlines the diverse platforms and channels through which PetVenture interacts with its target audience and stakeholders. From mobile app stores and social media platforms to event sponsorship and word-of-mouth referrals, each channel plays a unique role in raising awareness, driving user acquisition, and promoting engagement. By leveraging a multi-channel approach, we maximize our reach and impact in the pet care industry.

- **Word of Mouth:** Leveraging referrals for user acquisition.
- **Mobile App Stores:** Maximizing visibility and accessibility.
- **Website / Web-app:** Expanding reach across different devices.
- **Social Media Platforms:** Amplifying marketing efforts and engagement.
- **Advertising:** Partnering with platforms for targeted ad placements.
- **Event Sponsorship:** Raising brand awareness through relevant events.

5.2.7. Customer Segments

PetVenture serves a diverse range of customer segments within the pet care ecosystem, each with unique needs and preferences. From pet owners seeking convenient and reliable pet care services to pet-friendly establishments looking to attract pet-owning customers, our platform caters to various customer segments. By understanding and addressing the specific needs of each segment, we create value and drive engagement on our platform.

- **Pet Owners:** Seeking pet-friendly places, services, and connections.
- **Pet Sitters/Trainers:** Offering pet care services.
- **Pet-Friendly Establishments:** Welcoming pets in businesses.
- **Pet Product or Service Businesses:** Offering pet-related products or services.

5.2.8. Cost Structure

The cost structure section provides insight into the various expenses and investments required to operate and grow PetVenture. From app development and marketing to management and infrastructure, each cost component is carefully managed to ensure efficiency and sustainability. By optimizing our cost structure and resource allocation, we maximize value creation for our customers, partners, and investors.

- **App Development, Maintenance & Support**: Ensuring functionality and reliability of the platform.
- **Marketing:** Budget allocation for awareness and user acquisition.
- **Management:** Salaries and expenses for overseeing operations and strategy.
- **HR & Legal:** Costs for compliance and regulatory affairs.
- **IT & Non-IT Infrastructure:** Expenses for technology and office space.
- **Remuneration:** Compensation for employees and contractors.
- **External Human Resources:** Hiring external expertise.
- **Travel:** Expenses for business-related travel.

5.2.9. Revenue Streams

PetVenture generates revenue through multiple streams, each aligned with our value proposition and customer segments. From subscription fees and commission charges to registration and promotion fees, our revenue streams reflect the diverse ways in which we capture value from our platform. By diversifying our revenue streams and exploring new monetization opportunities, we ensure the long-term viability and success of PetVenture.

- **Subscription:** Offering premium features / services and ad free experience to Pet-Owners
- **Registration Fee:** Charging businesses for listing on the marketplace
- **Promotion Fee:** Offering premium listing options to Establishments
- **Commission:** Charging fees for facilitating transactions between:
    - Pet Owners & Pet sitters
    - Pet Owners & Affiliate businesses
- **Advertising:** Earnings from Advertising impressions of Freemium app users

This Business Model Canvas demonstrates the strategic framework and operational model of PetVenture, aligning with project management principles. Through careful consideration of key components, we aim to create value for customers, partners, and investors, while ensuring sustainable growth and success in the pet care industry.

5.3. Secondary Research – Competitors

PetVenture, our innovative pet-care application, aims to revolutionize the way pet owners interact with their furry companions. By combining essential services like finding pet-friendly establishments, pet sitting, lost-and-found support, and socializing platforms, PetVenture provides a comprehensive solution for pet lovers. In this analysis, we'll explore both direct and indirect competitors, highlighting their strengths and weaknesses compared to PetVenture.

5.3.1. Direct Competitors

5.3.1.1. Rover [8]
- **Description:** Rover.com connects pet owners with local pet sitters, dog walkers, and boarding services. It offers services like dog walking, pet drop-ins, house sitting, and doggy day care.
- **Comparison:** Rover covers a wide range of pet care services, including dog walking and boarding. However, it lacks features like lost-and-found support and socializing platforms.
- **Year of Origin:** Founded in 2011.
- **Company Size:** A large platform with over 1,000 employees.
- **Active Users:** Over 2 million registered users.
- **Operating Regions:** Available across the United States, Canada, and parts of Europe.

5.3.1.2. Barkybarns Pet Services [9]
- **Description:** Barkybarns provides pet care services, including dog walking, dog day-care, and pet drop-ins. They focus on safe and secure pet care.
- **Comparison:** Barkybarns is a local service trusted for over 10 years. While it offers dog walking and day-care, it doesn't have the comprehensive features of PetVenture.
- **Year of Origin:** Serving since 2010.

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- **Company Size:** A local business with a team of 20 dedicated pet care professionals.
- **Active Users:** Serving approximately 1,000 clients.
- **Operating Regions:** Primarily operates in the Madrid metropolitan area.

5.3.1.3.   BringFido [11]

- **Description:** BringFido helps pet owners find pet-friendly hotels, restaurants, and attractions. It's especially useful for travelers.
- **Comparison:** BringFido's primary focus is on locating pet-friendly places. While it serves a specific need, it doesn't cover other aspects like pet sitting or marketplace features.
- **Year of Origin:** Established in 2006.
- **Company Size:** BringFido operates as a digital platform.
- **Active Users:** Millions of pet owners use BringFido to plan their trips.
- **Operating Regions:** Available globally, with a strong presence in the United States and beyond.

5.3.2. Indirect Competitors

5.3.2.1.   Petfinder [10]

- **Description:** Petfinder is a popular online platform for pet adoption. It connects potential pet owners with shelters and rescue organizations.
- **Comparison:** Petfinder focuses on adoption rather than comprehensive pet care services. It lacks features like socializing platforms and lost-and-found support.
- **Year of Origin:** Founded in 1996.
- **Company Size:** Petfinder operates as a nonprofit organization.
- **Active Users:** Millions of users visit Petfinder to find adoptable pets.
- **Operating Regions:** Available across the United States and in various countries worldwide.

5.3.3. Out-of-the-Box Competitors

5.3.3.1.   FABventure Sling Pet Carrier [12]

- **Description:** FABventure offers a soft pet sling that allows hands-free carrying of small pets (up to 13 pounds). It's designed for comfort and convenience.
- **Comparison:** FABventure's product is hardware-based, providing a physical solution for pet transportation. However, it doesn't cover the broader scope of services that PetVenture aims to provide.
- **Year of Origin:** Established in 2015.
- **Company Size:** A medium-sized company specializing in pet accessories.
- **Active Users:** Around 100,000 customers.
- **Operating Regions:** Global, with a strong presence in the United States and Asia.

5.3.4. Alternatives (if PetVenture didn't exist)

5.3.4.1.   Google Maps and Yelp

- **Description:** These widely used platforms allow users to search for pet-friendly establishments, including restaurants, parks, and hotels.
- **Comparison:** While they provide basic information, they lack specialized features like lost-and-found support or pet socializing.

5.3.4.2.   Local Pet Sitting Services
- **Description:** Local pet sitters and boarding facilities offer personalized care for pets when owners are away.
- **Comparison:** These services are essential but lack the convenience of an integrated app like PetVenture.

5.3.5. SWOT Analysis for PetVenture
Please refer to Appendix section *8.2.10 BCG Matrix* for details of BCG Matrix.

Strengths:	Weakness :
Comprehensive Services: • PetVenture combines essential pet-related services, including finding pet-friendly establishments, pet sitting, lost-and-found support, and socializing platforms. • Our integrated approach provides convenience and efficiency for pet owners. User-Friendly App: • PetVenture's intuitive interface ensures a seamless experience for both pet owners and service providers. • Features like real-time notifications and personalized recommendations enhance user engagement. Local Partnerships: • We collaborate with local businesses, veterinarians, and pet service providers to create a robust network. • These partnerships enhance our credibility and expand our reach.	Market Entry Challenges:: • PetVenture faces competition from established players like Rover and BringFido. • Building brand awareness and gaining user trust will be crucial during the initial stages. Resource Constraints: • As a startup, we have limited resources for marketing, development, and customer support. • Balancing growth with financial sustainability is a challenge.
Threats :	**Opportunities :**
Competitor Dominance: • Established competitors like Rover have a strong user base and brand recognition. • PetVenture must differentiate itself to compete effectively. Regulatory Challenges: • Compliance with local regulations (e.g., pet care licensing, data privacy) can be complex. • Legal hurdles may impact our operations. Changing Consumer Preferences: • Trends in pet ownership and preferences evolve over time. • PetVenture must adapt to stay relevant and meet user needs.	Growing Pet Industry: • The petcare industry continues to grow globally, driven by increasing pet ownership and humanization. • PetVenture can tap into this expanding market by offering innovative solutions. Niche Services: • Focusing on specific niches (e.g., pet-friendly cafes, unique pet experiences) can set us apart. • Customized features for different pet types (dogs, cats, birds) can attract diverse users. International Expansion: • PetVenture can explore expansion beyond our current operating regions. • Entering new markets with high pet ownership rates presents growth opportunities.

Table 3: PetVenture SWOT Analysis.

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5.4. Marketing Strategy

5.4.1. User Personas

Carlos
Age: 45
Status: Married, two children
Occupation: Senior executive in a company
Demographics: Lives in a city apartment

Alex
Age: 32 years
Status: Single
Occupation: International sales representative
Demographics: Lives in a city apartment

Needs & preferences

- Looking for flexible and trustworthy pet care services with early booking options.
- Prefers an app with real-time notifications to stay informed about the status of his pets during his absence.

Behaviors

- Owns a dog and a cat but struggles to juggle professional and family responsibilities.
- Seeks pet care and grooming services during long workdays.

Behaviors

- Travels extensively for work, often spending several days away from home.
- Has a deep love for his dog, but struggles to find reliable pet care solutions during his travels.
- Values convenience and peace of mind when it comes to caring for his pet while he's away.

Needs & preferences

- Looking for a pet care app that offers flexible booking options for pet sitters and boarding facilities in various locations.
- Prefers an app with a rating and review system to ensure the quality and reliability of pet care providers, even in unfamiliar areas.
- Values features such as real-time updates and photos/videos of his pet during his absence to alleviate worries and maintain a connection while traveling.

Figure 14: PetVenture Target User Personas.

5.4.2. Development of the Marketing Mix

- **Product:** We will prioritize user feedback for ongoing development, incorporating new features like service geolocation, vet appointment scheduling, and health reminders. We will set our app apart with innovative features like activity tracking tools for pets and personalized breed-specific advice. We will collaborate with partners in the pet industry to expand our services.

- **Price:** We will offer freemium and premium pricing formulas to cater to diverse user needs. We will offer special launch deals, referral discounts, and loyalty rewards. We will continuously monitor competitors' pricing and adjust our strategy accordingly.

- **Promotion:** We will leverage digital promotion channels, organize online launch events, webinars, and demo sessions, and collaborate with pet industry influencers to amplify our promotional efforts.

- **Distribution:** We will distribute our app on major app stores and explore distribution partnerships with mobile device manufacturers and internet service providers. We will consider expanding distribution internationally by translating the app into different languages and tailoring features to meet the specific needs of local markets.

5.4.3. Implementation

- **Product Launch:** We will ensure the smooth rollout of new features and updates, coordinating closely with the development team. Updates will be communicated to users through various channels.

- **Advertising Campaigns:** Our campaigns will be strategically launched across targeted platforms. We will closely monitor campaign performance and make adjustments based on real-time data. For more details refer to section *8.2.5 Marketing Mix – Advertising Campaigns*

- **Event Participation:** We will actively participate in relevant industry events to showcase our application's features and benefits.
- **Content Marketing:** We will develop engaging and informative content for blog posts, social media updates, and email newsletters. For more details refer to section *8.2.6 Marketing Mix – Content Marketing*
- Partnership Initiatives: We will proactively reach out to potential partners in the pet industry. Joint marketing campaigns will be launched to leverage each other's audience and resources for mutual benefit.
- **Performance Monitoring:** We will track key performance indicators such as app downloads, user engagement metrics, and revenue generation. This will enable us to optimize marketing efforts and allocate resources effectively to achieve our objectives. For more details refer to section *8.2.7Marketing Mix – Performance Monitoring.*

5.4.4. Marketing Goal 1 – Attracting users to the Application
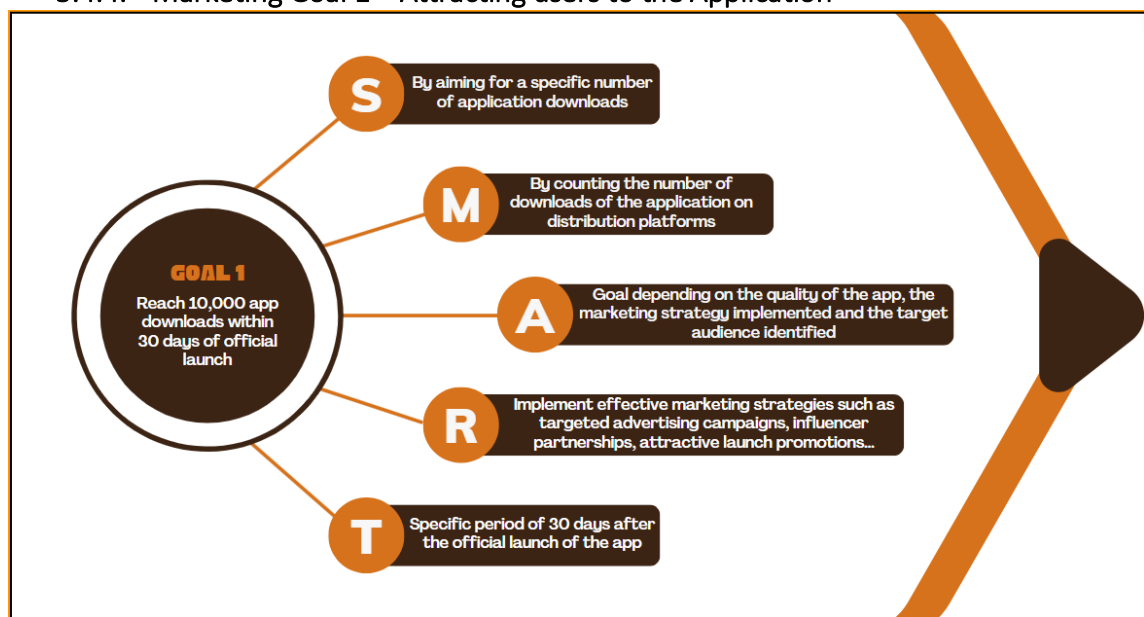
Figure 15: PetVenture Marketing Goal 1

In order to attract users to our app, we employ a comprehensive strategy that encompasses various tactics aimed at increasing app downloads, user engagement and retention. Our approach includes the following key elements:

- **Promotional campaigns:** We launch targeted promotional campaigns to generate awareness and interest in our app.
- **Social media engagement:** We actively engage with the pet owners on social media platforms such as: Facebook, Instagram and X.
- **Referral programs:** Implementing referral programs, we incentivize existing users to refer their friends and family to the app. For more details refer to section 8.2.8 Marketing Mix – Referral Programs.
- **Content marketing:** Through content marketing efforts, we create informative and engaging content related to pet care, lifestyle and products update.
- **Partnership initiatives:** We forge partnerships with pet-related businesses, organizations and influencers to expand our reach and access new audiences.

5.5. Monetization Strategy

In this section, we outline the monetization strategy developed during Phase I of our pet care app project, PetVenture. Our goal was to identify viable revenue streams to ensure the app's financial sustainability. We conducted thorough research and analysis to determine the best approaches for monetizing our platform.

Understanding how to generate revenue is crucial for the success of PetVenture. Our monetization strategy focuses on providing value to pet owners while ensuring the financial sustainability of our platform. We have identified multiple revenue streams to capture value from our diverse user base and business partners. By diversifying our revenue streams and exploring new monetization opportunities, we aim to ensure the long-term viability and success of PetVenture.

Revenue Streams	Description
Subscription Fees	Monthly fee of 5 € for premium features, ad-free experience, special deals, promotions, and free pet sitting hours.
Registration Fees	Annual platform fee of 150 € for affiliated businesses to list on the marketplace
Promotion Fees	Premium listing options for establishments, costing 50 € per month
Commission Fees	Pet sitting services: • Hourly: 5 € for the first hour, 10% of the hourly rate from the 2nd hour • Daily/overnight: 10% of the daily rate of 60 € • 10-day rate: 10% of the 10-day rate of 475 € Marketplace sales: 5% commission on the sale/transaction value
Advertising Revenue	Ad impressions for freemium app users with a click-through rate of 0.10% and a cost per click of 0.10 €

Table 4: Overview of the Monetization Strategy for PetVenture.

5.5.1. Subscription Fees

To provide an ad-free experience and access to premium features, we offer a subscription model. This can be opted by paying a monthly subscription fee of 5 €. Subscribers will benefit from special deals and promotions on our marketplace and some free pet sitting hours on a monthly basis in addition to the ad-free experience.

5.5.2. Registration Fees

We charge affiliated businesses (pet-related products and / or services) an annual registration fee of 150 € for listing their business on our marketplace and to have access to our customer base. In addition to the annual registration fee we will also be charging a commission of 5% on the transaction value of any product or service sold from our market place.

5.5.3. Promotion Fees

We offer premium listing options to pet-friendly establishments, allowing them to enhance their visibility on our platform. They can access this service by paying 50 € per month.

5.5.4. Commission Fees

PetVenture charges commission fees for facilitating transactions between pet owners and pet sitters, as well as between pet owners and affiliate businesses. The commission structure is as follows:

- Hourly pet sitting services: 5 € is the flat commission for the first hour (first-hour tariff 20 €), and 10% of the hourly tariff from the second hour (hourly tariff from second hour is 15 €).
- For daily pet sitting services: 10% of the daily rate of 60 €.
- For 10-day pet sitting services: 10% of the 10-day rate of 475 €.

5.5.5. Advertising Revenue

Our freemium app users, comprising approximately 80% of our customer base, will be shown advertisements. We anticipate a click-through rate of 0.10% and a cost per click of 0.10 €. This advertising revenue will supplement our other income streams.

Through a comprehensive and diversified monetization strategy, we have laid the foundation for PetVenture's financial sustainability. By incorporating multiple revenue streams such as subscriptions, registration fees, promotion fees, commissions, and advertising, we aim to ensure the long-term success and growth of our platform. Our strategy reflects careful consideration of our target market's needs and the opportunities within the pet care industry

5.6. Financial Projections

In this section, we present the financial projections for PetVenture, focusing on both revenue and cost projections. Our aim is to provide a clear financial outlook for the first year of operations and the subsequent years, demonstrating the financial viability and potential growth of our pet care platform. The projections are based on our monetization strategy and market assumptions.

5.6.1. Revenue Estimates & Projections

Our revenue projections are derived from multiple streams, including subscription fees, registration and promotion fees, commission charges, and advertising revenue. These projections consider our target user base, affiliated businesses, and pet-friendly establishments. Based on specific assumptions, we have developed revenue projections for three different scenarios i.e. worst-case, ideal-case, and best-case. The pricing models were tailored by considering the "willingness to pay" insights gathered from our survey analysis. This structured approach ensures we comprehensively address various potential scenarios, allowing us to strategically plan and adapt our operations to achieve our financial objectives.

5.6.1.1. Assumptions

To forecast our revenues, we made the following assumptions for each scenario:
- **Worst-Case Scenario:**
  - Active Users: 5,000
  - Annual User Growth Rate: 10%
  - Total Establishments: 250
  - Total Affiliated Businesses: 125

- o Annual Establishment Growth Rate: 5%
- o Annual Affiliated Business Growth Rate: 5%
- o (For detailed calculations refer 8.2.11 Financial Projections – Revenue Calculations Worst Case)
- **Ideal-Case Scenario:**
  - o Active Users: 10,000
  - o Annual User Growth Rate: 15%
  - o Total Establishments: 350
  - o Total Affiliated Businesses: 175
  - o Annual Establishment Growth Rate: 7.5%
  - o Annual Affiliated Business Growth Rate: 7.5%
  - o (For detailed calculations refer *8.2.12 Financial Projections – Revenue Calculations Ideal Case*)
- **Best-Case Scenario:**
  - o Active Users: 20,000
  - o Annual User Growth Rate: 20%
  - o Total Establishments: 500
  - o Total Affiliated Businesses: 250
  - o Annual Establishment Growth Rate: 10%
  - o Annual Affiliated Business Growth Rate: 10%
  - o (For detailed calculations refer *8.2.13 Financial Projections – Revenue Calculations Best Case*)

5.6.1.2.   Revenue Streams

The revenue streams have been discussed in the previous section 5.5 Monetization Strategy. Below is the summary of the projected revenue streams for all 3 scenarios. You can refer to the detailed calculation of these figures in the appendix section *8.2.9 Financial Projections – Revenue Stream Calculations*.

Revenue Streams	Worst-Case		Ideal-Case		Best-Case	
	Monthly	Annual	Monthly	Annual	Monthly	Annual
Subscription Fee	5,000 €	60,000 €	10,000 €	120,000 €	20,000 €	240,000 €
Registration Fee (Marketplace)	1,563 €	18,750 €	2,188 €	26,250 €	3,125 €	37,500 €
Promotion Fee (Establishment)	3,125 €	37,500 €	4,375 €	52,500 €	6,250 €	75,000 €
Commission (Pet Sitting)	2,585 €	31,020 €	5,170 €	62,040 €	10,340 €	124,080 €
Commission (Marketplace)	1,250 €	15,000 €	2,500 €	30,000 €	5,000 €	60,000 €
Advertising Revenue	40 €	480 €	80 €	960 €	160 €	1,920 €
Total	13,563 €	**162,750 €**	24,313 €	**291,750 €**	44,875 €	**538,500 €**

Table 5: First year Revenue projections (all Scenarios)

5.6.1.3.   Revenue Projection

In this section, we present the 5-year projected revenue for PetVenture across three different scenarios: worst-case, ideal-case, and best-case. These projections are based on detailed assumptions regarding user growth, subscription rates, affiliate and establishment participation, and other revenue streams. By analyzing these scenarios, we aim to provide a comprehensive financial outlook that helps us understand potential outcomes and prepare accordingly. This approach enables us to strategically plan our operations, investments, and marketing efforts to achieve our long-term financial goals.

5 year Revenue Projections - Worst-Case, Ideal-Case, Best-Case

	1st Year	2nd Year	3rd Year	4th Year	5th Year
Revenue Projections Worst-Case	162,750 €	176,400 €	191,284 €	207,518 €	225,231 €
Revenue Projections Ideal-Case	291,750 €	329,325 €	372,072 €	420,733 €	476,156 €
Revenue Projections Best-Case	538,500 €	632,700 €	744,390 €	876,933 €	1,034,351 €
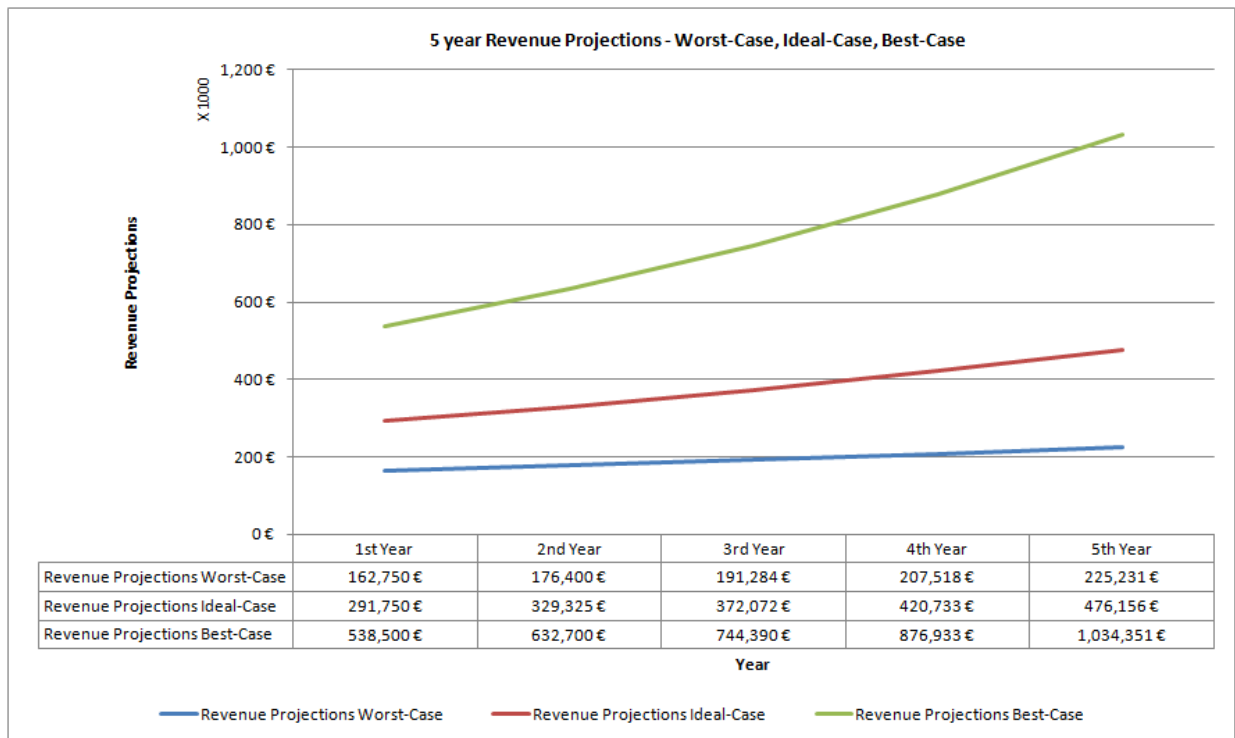
Table 6: Revenue Projections for 5 years (all scenarios)

5.6.2. Cost Estimates & Projections

In this section, we outline the cost estimates and projections for PetVenture, detailing the expected expenses across various categories. These estimates are based on a combination of parametric and analogous estimation techniques, leveraging our team's experience and industry standards. We aim to provide a clear and realistic financial outlook for the development and ongoing support of the PetVenture app.

5.6.2.1. Expense Categories

We have broadly classified our expenses into the following categories:
- Application Development
- Maintenance & Ongoing Support
  - Bug fixes and updates
  - Feature enhancements (design)
  - User support and troubleshooting
- IT Infrastructure
  - Server Hosting
  - Domain Registration
  - SSL Certificate
  - Payment Gateway Integration
  - Software tools (PM tool, Testing, QA / QC tool etc.)
  - Laptops
- Marketing
  - Branding and Visual Identity (one time)
  - App Store Optimization (ASO) / Search Engine Optimization (SEO)
  - Social Media Marketing (Recurring)
    - Content Creation
    - Paid Advertising Budget
  - Influencer Partnerships Fee (Per campaign)
  - Email Marketing Platform Subscription (annual)
  - Offline Marketing (monthly)

- Printed Materials (Flyers, Posters, etc.)
- Event Sponsorships (Per event)
- Remuneration
- Non-IT Infrastructure
  - Hot desks in co-working space like We-Works, Regus etc.

5.6.2.2.   Application Development Scenarios

We have considered three different scenarios for application development, each with varying team sizes and development approaches i.e. with generic development or with cross platform development (i.e. website / Android / iOS). For each scenario, we estimated two possibilities i.e. using outsourced resources billed at hourly rates and using in-house resources with monthly salaries. We plan to take the average of the two as our most probable expense, given that we will deploy a hybrid approach during Phase III.

Scenario	In House / Outsourced	Budget / Cost Segment	Monthly	Quarterly	Annual	Budget for 2024-25
Full app Development (generic)	Outsourced (100%)	App Development (Outsourced)	-	-	€ 218,240.00	€ 1,298,110.00
		Maintenance & Support (outsourced)	€ 107,000.00	€ 321,000.00	€ 963,000.00	
		Marketing (Outsourced with Spend Budget)	€ 9,600.00	€ 28,800.00	€ 115,200.00	
		IT Infrastructure	-	-	€ 1,670.00	
	In House (100%)	IT Infrastructure	-	-	€ 2,370.00	€ 977,120.00
		Remuneration (In house team)	€ 71,000.00	€ 213,000.00	€ 852,000.00	
		Infrastructure	€ 3,000.00	€ 9,000.00	€ 36,000.00	
		Marketing Spend Budget	€ 5,600.00	€ 16,800.00	€ 67,200.00	
		IT Infrastructure (one time)	-	-	€ 19,550.00	
MVP app Development (generic)	Outsourced (100%)	App Development (Outsourced)	-	-	€ 116,765.00	€ 683,185.00
		Maintenance & Support (outsourced)	€ 45,000.00	€ 135,000.00	€ 449,550.00	
		Marketing (Outsourced with Spend Budget)	€ 9,600.00	€ 28,800.00	€ 115,200.00	
		IT Infrastructure	-	-	€ 1,670.00	
	In House (100%)	IT Infrastructure	-	-	€ 2,370.00	€ 848,570.00
		Remuneration (In house team)	€ 61,000.00	€ 183,000.00	€ 732,000.00	
		Infrastructure	€ 2,500.00	€ 7,500.00	€ 30,000.00	
		Marketing Spend Budget	€ 5,600.00	€ 16,800.00	€ 67,200.00	
		IT Infrastructure (one time)	-	-	€ 17,000.00	
MVP app Development (Crossplatform)	Outsourced (100%)	App Development (Outsourced)	-	-	€ 51,315.00	€ 388,685.00
		Maintenance & Support (outsourced)	€ 21,000.00	€ 63,000.00	€ 220,500.00	
		Marketing (Outsourced with Spend Budget)	€ 9,600.00	€ 28,800.00	€ 115,200.00	
		IT Infrastructure	-	-	€ 1,670.00	
	In House (100%)	IT Infrastructure	-	-	€ 2,370.00	€ 459,070.00
		Remuneration (In house team)	€ 30,500.00	€ 91,500.00	€ 366,000.00	
		Infrastructure	€ 1,250.00	€ 3,750.00	€ 15,000.00	
		Marketing Spend Budget	€ 5,600.00	€ 16,800.00	€ 67,200.00	
		IT Infrastructure (one time)	-	-	€ 8,500.00	

Table 7: Annual Expense Budget for all 3 Application Development Scenarios

1. End-to-End Application Development (Generic)
   - **Approach:** Comprehensive development PetVenture with all the planned features & functionality from scratch, focusing on native development for both Android and iOS platforms in addition to website development. For detailed calculation refer to appendix section *8.2.14 Financial Projections – Cost Estimate Full App Generic*
   - **Estimated Team Size**: 24
   - **Estimated Annual Budget:**
     I.   100% Outsourced: € 1,298,110.00
     II. 100% In-house: € 977,120.00

2. MVP Level Development Followed by Frequent Releases (Generic)

- o **Approach:** Developing a Minimum Viable Product (MVP) initially, then incrementally adding features through frequent updates. Development remains native for all platforms i.e. Android, iOS, and website. For detailed calculation refer to appendix section *8.2.15 Financial Projections – Cost Estimate MVP App Generic*
- o **Estimated Team Size**: 20
- o **Estimated Annual Budget:**
  - I. 100% Outsourced: € 683,185.00
  - II. 100% In-house: € 848,570.00

3. MVP Level Development Followed by Frequent Releases (Cross Platform)
   - o **Approach:** Developing a Minimum Viable Product (MVP) initially, then incrementally adding features through frequent updates. Development remains native for all platforms i.e. Android, iOS, and website. For detailed calculation refer to appendix section *8.2.16 Financial Projections – Cost Estimate MVP Flutter*
   - o **Estimated Team Size**: 10
   - o **Estimated Annual Budget:**
     - I. 100% Outsourced: € 388,685.00
     - II. 100% In-house: € 459,070.00

5.6.2.3.   Estimation Techniques

We utilized a mix of parametric and analogous estimation techniques for our cost projections:

- **Application Development:** Estimations were derived using the estimation tool on estimatemyapp website [8] and the experience of our team members, providing a parametric basis for our projections.
- **IT Infrastructure:** These estimates were based on analogous techniques, referencing similar projects from blogs and online resources.
- **Non-IT Infrastructure:** Costs are calculated based on actual expenses for hot desks in co-working spaces. To reduce costs, we implement a round-robin arrangement where 50% of our workforce works from home each week, allowing us to manage with half the office space capacity.
- **Remuneration:** Salaries and compensation were estimated using data from Glassdoor and similar sites [9], making this more analogous in nature.

5.6.2.4.   Cost Projections

We present our summarized projections below, detailing the costs for each of the three development scenarios. These projections are designed to give a comprehensive view of our financial planning and expected expenditures for the next five years. This structured approach ensures we are well-prepared to manage our resources effectively and sustain the growth and development of PetVenture. For the purpose of projection an inflation rate of 8% is assumed over the next 5 years.

5 Year Cost Projections - Full Dev. (Generic), MVP Dev. (Generic), MVP Dev. (Crossplatform)

	Year 1	Year 2	Year 3	Year 4	Year 5
Full app Development (generic) Outsourced	1,298,110.00 €	1,512,939.60 €	1,633,974.77 €	1,764,692.75 €	1,905,868.17 €
Full app Development (generic) In House	977,120.00 €	1,034,175.60 €	1,116,909.65 €	1,206,262.42 €	1,302,763.41 €
MVP app Development (generic) Outsourced	672,385.00 €	709,419.60 €	766,173.17 €	827,467.02 €	893,664.38 €
MVP app Development (generic) In House	848,570.00 €	898,095.60 €	969,943.25 €	1,047,538.71 €	1,131,341.80 €
MVP app Development (Crossplatform development) Outsourced	388,685.00 €	398,379.60 €	430,249.97 €	464,669.97 €	501,843.56 €
MVP app Development (Crossplatform development) In House	459,070.00 €	486,615.60 €	525,544.85 €	567,588.44 €	612,995.51 €

Table 8: Expense Projection for next 5 years - All Dev. Scenarios.

5.6.3. Final Revenue & Expense Projection

For the application development, we decided to pursue a cross-platform approach using Flutter. This choice significantly reduces the effort required for both development and maintenance. Balancing outsourced and in-house resources is crucial in this scenario. After conducting a high-level analysis, we determined that a hybrid approach (80% Outsourced & 20% In-House) would best optimize our resource allocation and maintain flexibility as we progress into Phase III.

Year	Revenue Projections				Expense Projections		
					MVP Cross-platform Flutter Dev.		
	Worst-Case	Ideal-Case	Best-Case	3-Point Estimation	Outsourced (100%)	In-House (100%)	Outsource + In-House (80%+20%)
1st Year	162,750 €	291,750 €	538,500 €	331,000 €	388,685.00 €	459,070.00 €	402,762.00 €
2nd Year	176,400 €	329,325 €	632,700 €	379,475 €	398,379.60 €	486,615.60 €	416,026.80 €
3rd Year	191,284 €	372,072 €	744,390 €	435,915 €	430,249.97 €	525,544.85 €	449,308.94 €
4th Year	207,518 €	420,733 €	876,933 €	501,728 €	464,669.97 €	567,588.44 €	485,253.66 €
5th Year	225,231 €	476,156 €	1,034,351 €	578,579 €	501,843.56 €	612,995.51 €	524,073.95 €

Table 9: Final Revenue & Expense Projections - 5 Years

For our revenue estimations and projections, we adopted a 3-Point Estimating (Triangular distribution) methodology. This approach provides a more accurate depiction of our financial outlook for the next five years. Below are the revised estimations and projections.
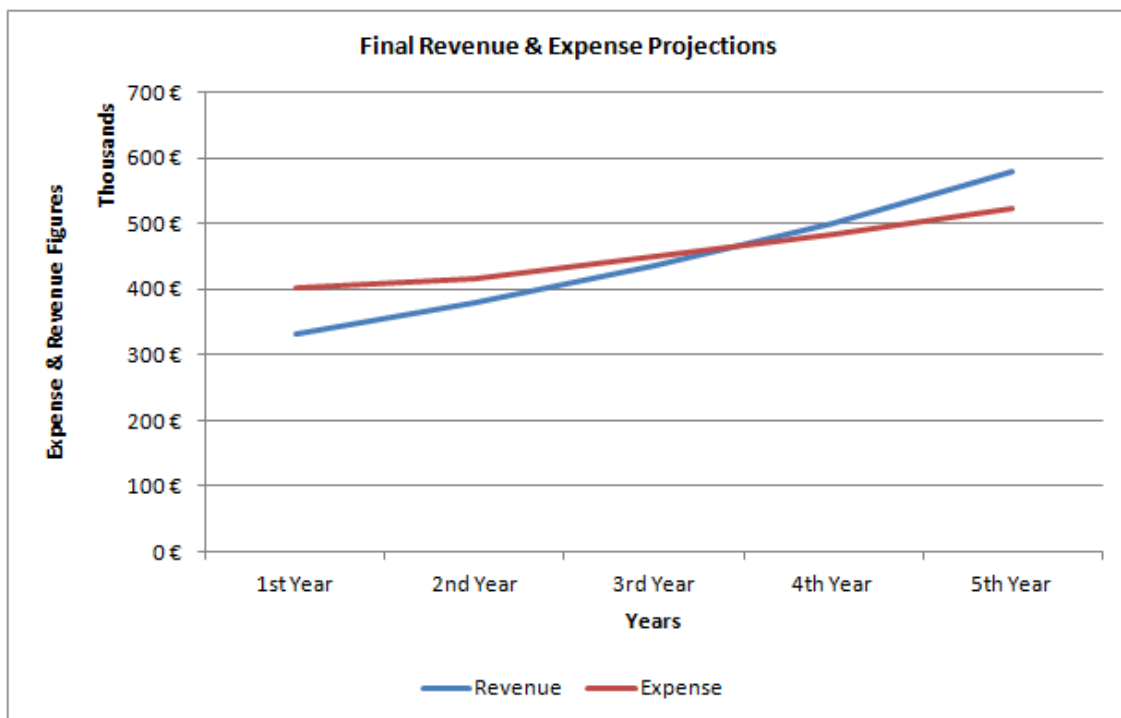
Table 10: Final Financial Projections - 5 Years.

5.7. Project Management Considerations – Phase II

In Phase II, we shifted our focus to developing detailed plans and creating actual outputs. This phase involved more complex tasks and required careful project management to keep everything on track. We continued using Agile practices to manage our work, addressing new risks and challenges as they came up. By identifying potential issues early and planning how to handle them, we aimed to ensure smooth progress towards our project goals.

5.7.1. Scope Definition

In Phase II of the PetVenture project, our objective was to design and validate the comprehensive solution for our pet care platform. This involved developing a detailed business model, preparing a broad marketing strategy, specifying key features, and creating mock-ups of the minimum viable product (MVP). Our efforts in this phase aimed to ensure that our app meets the needs of pet owners and provides a seamless user experience.

In-Scope:
- **Designing a Comprehensive Solution for PetVenture:**
  - **User Personas:** Creating detailed profiles of different types of users.
  - **Feature List Document:** Outlining the core features and functionalities.
  - **User Journey Maps:** Documenting steps users will take within the application
  - **MVP Feature Mock-ups:** Developing detailed prototypes for the initial version of the app, including:
    - Pet Owner User Journey
    - Customer Support
    - Basic App Customization
    - Find & Explore Pet-Friendly Establishments
    - Find, Explore, Review & Pay Pet Sitters

- **Developing a Business Model Canvas:**
  - Defining the overall business strategy and framework.
  - **Monetization Strategy:** Detailed plans for generating revenue through various streams, including subscriptions, commissions, registration, promotion fees, and advertising.
  - **Revenue & Cost Projections:** Estimating potential revenue streams and associated costs to ensure financial viability.
  - **Broad Marketing Strategy**

Out of Scope:
- Development and coding of the application features.
- Full-scale market launch activities.
- Detailed post-launch support and maintenance activities
- Actual validation of the application through user testing

5.7.2. Management Methodology

Our management methodology in Phase II remained consistent with Phase I, continuing to utilize Agile practices. We maintained our weekly Sprint cycles with Sprint Planning, Daily Scrums, Sprint Reviews, and Retrospectives. This iterative approach helped us adapt to changes and incorporate continuous improvements. Please refer to Section 4.4.2 *Management Methodology* for more details on the methodology.

5.7.3. Roles & Responsibilities

Roles and responsibilities largely remained the same as in Phase I. Each team member had clear roles, and our Product Owner continued to manage the Product Backlog with regular input from the entire team. This structure ensured that everyone understood their tasks and contributed effectively to the project. Please refer to Section 4.4.3 *Roles & Responsibility* for more details on the Roles & Responsibilities.

5.7.4. Timelines & Milestones

In Phase II, we took our initial work and started developing a strategic plan and concrete outputs. We continued with our Agile approach, keeping the same structure of weekly Sprint cycles with Sprint Planning, Daily Scrum, Sprint Reviews, and Sprint Retrospectives. The Product Owner kept managing the Product Backlog, with all of us regularly refining it. From Sprint 3 to Sprint 6, we focused on creating a high-level pitch deck strategy, researching mock-up tools, documenting possible features, and planning our marketing and financial strategies. We also planned for our MVP, developed user stories and mock-ups, and validated our idea with internal stakeholders. This phase included managing the team and operational activities, and it all led to the creation of our final pitch deck.

Phase & Activity	Sprint 3 (16 Feb - 22 Feb)	Sprint 4 (23 Feb - 29 Feb)	Sprint 5 (1 March - 7 March)	Sprint 6 (8 March - 14 March)
Sprint Events	SP DS DS H H DS DS SR/SRT	SP DS DS H H DS DS SR/SRT	SP DS DS H H DS DS SR/SRT	SP DS DS H H DS DS SR/SRT
Phase II: Solution Design & Business Model				
High Level Pitch Deck Strategy	▓			
Research for Mock-up tools to use	▓			
Document Possible Features	▓			
Marketing Plan	▓			
Financial Plan	▓			
MVP Planning		▓		
Develop User Stories & Mockups of selected Features		▓		
Validation of Idea with Stakeholders (Internal)			▓	▓
Team Managenmt & Operational Activities			▓	▓
Final Pitch Deck				▓

SP	Sprint Planning	H	Holiday
DS	Daily Scrum	SR/SRT	Sprint Review & Sprint Retrospective

Table 11: Phase II - Timelines, Schedule & Milestones

5.7.5. Risk Management

In Phase II, we moved on to developing our strategic plans and tangible outputs, building on the foundation from Phase I. With this shift, we faced new risks that we needed to manage carefully. By identifying and analyzing these risks, we implemented strategies to reduce their potential impact. This approach helped us deal with the complexities of strategic planning, product development, and stakeholder engagement, keeping us on track towards achieving our project goals.

Risk	Impact	Impact Level	Likelihood	Mitigation Strategy
Incomplete High-Level Pitch Deck Strategy	Poor presentation of the business idea to stakeholders	High	Medium	Develop the pitch deck iteratively, incorporating feedback from internal reviews and stakeholders.
Inadequate Mock-up Tools	Ineffective visualization of features, impacting stakeholder buy-in	Medium	Medium	Research and test multiple mock-up tools, and select the most user-friendly and feature-rich option.
Undefined Marketing and Financial Plans	Lack of strategic direction and potential funding issues	High	High	Develop comprehensive marketing and financial plans early, and iterate based on feedback and market research.
MVP Planning Oversights	Misaligned product features and delays in development	High	Medium	Engage all team members in MVP planning, prioritize features based on user stories, and validate with stakeholders.
Ineffective Team Management	Reduced team morale and productivity	Medium	Medium	Establish clear team management protocols, maintain regular check-ins, and address issues promptly.

Table 12: Phase II - Risks & Mitigation Strategies

5.7.6. Communication Plan

There were no significant changes to our communication plan and we continued to follow the same approach that we followed in Phase I of the project. Please refer to section 4.4.6 *Communication Plan* for more details on the Communication Plan.

5.7.7. Monitor & Control

We continued to monitor and control our project through regular Sprint Reviews and Retrospectives. These meetings allowed us to track our progress, identify any issues, and make necessary adjustments to stay on track. Regular check-ins ensured that the

project remained aligned with our objectives. Please refer to Section 4.4.7 *Monitor & Control* for more details on the Monitor & Control considerations.

5.7.8. Deliverables

In Phase II, we focused on designing and validating our proposed solution. This involved extensive user research, feature specification, prototyping, and usability testing. The deliverables from this phase provide a validated plan for app development in the next phase.

1. **Business Model Canvas:**
   a. A strategic framework outlining our business model, including key activities, resources, value propositions, customer relationships, channels, customer segments, cost structures, and revenue streams.
   b. Monetization Strategy: Detailed strategies for generating revenue through various streams.
   c. Revenue & Cost Projections: Financial estimates for potential revenue and associated costs.
2. **User Personas:** Comprehensive profiles of different types of users based on research data. These personas help us understand our target audience's needs, behaviours, and pain points.
3. **List of Features and Functionality:** Detailed descriptions of the core features and functionalities of the application
4. **MVP Feature Mock-up on Figma**

6. Phase III: Implementation & Application Development

In this section, we document the steps and methodologies planned for the implementation and development phase of the PetVenture application. Building on the validated insights and designs from previous phases, Phase III focuses on finalising the application by validating our assumptions, creating an implementation plan, and establishing project management considerations to ensure successful execution.

6.1. Validation of Assumptions

To ensure the app meets the needs of all potential users, it is crucial to validate our assumptions about various user segments beyond pet owners. This involves brainstorming, designing, and validating our understanding of other user journeys within the application We will use an iterative Agile approach to facilitate this process. We will conduct weekly Sprint cycles over a period of 5-6 weeks, allowing us to iteratively refine our designs based on feedback.

6.1.1. Brainstorming & Designing Remaining User Journeys

We intend to conduct brainstorming sessions with stakeholders and team members to identify and design user journeys for additional user segments such as pet sitters, pet-friendly establishments, and affiliated businesses. Through this we will have a clearer understanding of the specific needs and interactions of these user segments which is crucial to create a comprehensive and user-friendly application The expected outcome will be detailed personas for each user segment and mapped-out user journeys highlighting key interactions with the application

6.1.2. Validation of Remaining User Journeys

We plan to develop mock-ups and prototypes for key app screens and interactions and conduct usability testing sessions with representatives from each user segment. This will help us gather feedback and ensure the designs meet user needs and expectations. Taking into account the feedback that we receive from this exercise we would have our refined designs, leading to a more intuitive and effective user experience.
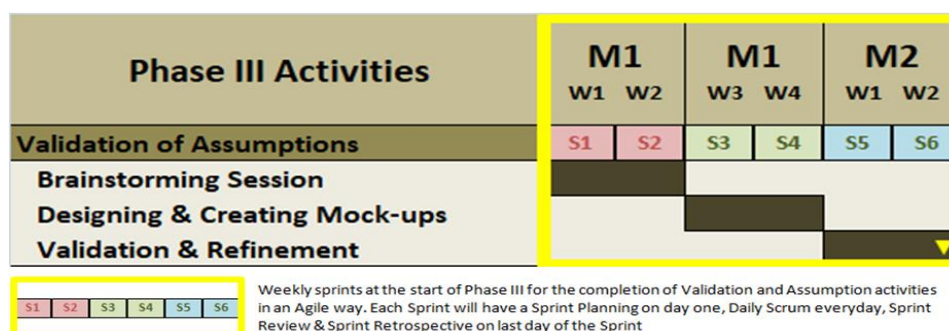
Figure 16: Implementation Plan for Validation of Assumptions Phase.

6.1.3. Tentative Timelines & Milestones

- Sprint 1 & 2: Brainstorming Sessions
    - Identify additional user types (e.g., pet sitters, business owners).
    - Outline potential user journeys and interactions with the application
- Sprint 3 & 4: Designing and Creating Mock-ups
    - Develop initial wireframes and prototypes.
    - Conduct usability testing sessions.

- Sprint 5 & 6: Validation and Refinement
  - Gather feedback from a small user group.
  - Refine designs and prepare final mock-ups for development.

Through comprehensive brainstorming and validation activities, we aim to ensure the app provides a seamless and valuable experience for all user segments, thereby increasing its overall effectiveness and user satisfaction. Kindly refer to the Table 13: Phase III - Tentative Implementation Plan. In the following section of the document 6.2 Implementation Plan.

6.2. Implementation Plan

For the actual development of the app, we will employ a predictive approach like Waterfall, structured into multiple drops. Each drop will cover a set of features critical to the app's functionality and user experience.
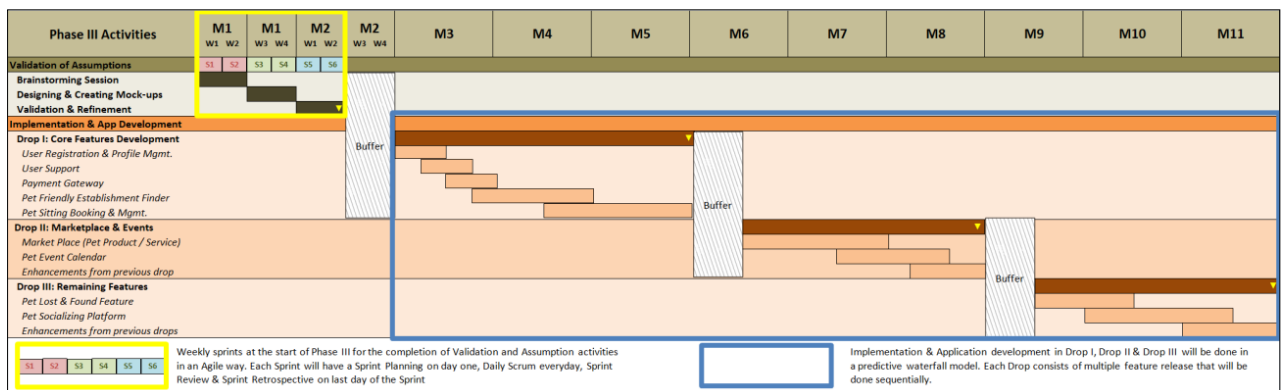
Table 13: Phase III - Tentative Implementation Plan.

6.2.1. Drop I: Core Features

This phased approach ensures that the core functionalities, which are essential for the app's primary operations, are developed first. This way, we establish a strong foundation on which additional features can be built. Each activity is scheduled to allow for thorough testing and validation before moving on to the next.

- User Registration and Profile Management
  - Activities: Develop and test user authentication and profile setup features.
  - Timeline: Month 0.5 – 1.0
- User Support
  - Activities: Set up helpdesk functionalities and FAQs.
  - Timeline: Month 0.5 – 1.0
- Payment Gateway
  - Activities: Integrate secure payment systems for transactions.
  - Timeline: Month 1.0 – 1.5
- Pet Sitting Service Booking and Management
  - Activities: Implement booking systems, calendar integration, and notification services.
  - Timeline: Month 1.5 – 2.5
- Pet-Friendly Establishment Finder
  - Activities: Develop search and filter functionalities for establishments.
  - Timeline: Month 2.5 – 3.0

6.2.2.   Drop II: Marketplace & Event Calendar

The marketplace and event calendar features enhance user engagement and provide additional value to the app, making it a comprehensive solution for pet owners. By focusing on these features in the second drop, we ensure the app is not only functional but also enriching the user experience.

- Marketplace for Pet Products and Services
  - Activities: Develop e-commerce functionalities for product listing, search, and purchase.
  - Timeline: Month 3.0 – 4.5
- Pet Event Calendar
  - Activities: Implement event creation, management, and notification features.
  - Timeline: Month 4.0 – 4.5
- Additional Enhancements
  - Activities: Integrate user feedback from earlier drops for app improvements.
  - Timeline: Month 4.5 – 5.5

6.2.3.   Drop III: Remaining Features

The remaining features and enhancements are added last to ensure that all core functionalities are stable and that the user base has already been established. These features aim to foster community engagement and provide additional safety and socializing options for pet owners.

- Pet Lost and Found Feature
  - Activities: Develop systems for reporting and finding lost pets.
  - Timeline: Month 5.5 – 6.5
- Pet Socializing Platform
  - Activities: Create features for pet owners to connect and arrange play-dates.
  - Timeline: Month 6.0 – 7.5
- Additional Enhancements
  - Activities: Integrate user feedback from earlier drops for app improvements.
  - Timeline: Month 7.0 – 8.5

6.3. Project Management Approach

For our chosen approach for PHASE III of the PetVenture project, we will adopt a predictive (Waterfall) project management, as this methodology is characterized by its linear and sequential structure, making it suitable for our project where we will have well-defined requirements and deliverables after the requirement gathering. Here's an overview of why we chose this approach, along with its benefits and potential risks.

Why Are We Using Predictive/Waterfall Methodology?
The decision to use a predictive/Waterfall approach for Phase III is based on the following considerations:
- **Clear Requirements:** The requirements and functionalities for PetVenture have been thoroughly researched and validated in the previous phases. This clarity allows us to define a detailed project plan with specific milestones and deliverables.

- **Structured Development:** The Waterfall model's structured phases ensure that each aspect of the app is developed systematically, reducing the risk of missing critical functionalities.
- **Risk Mitigation:** By following a sequential approach, we can identify and address potential issues early in the development process, minimizing risks during later stages.
- **Stakeholder Alignment:** This approach provides clear documentation and progress tracking, keeping all stakeholders informed and aligned throughout the project lifecycle.

Benefits of our chosen approach
- **Predictability:** The nature of the Waterfall model which is a linear approach allows us to have precise planning and scheduling, ensuring that project milestones and deadlines are clearly defined and met.
- **Easy Tracking and Management**: Our progress will be easily tracked against the project plan, making it straightforward to manage and control each phase of development.
- **Comprehensive Documentation**: Each phase requires detailed documentation, which ensures that all aspects of the project will be well-documented and can be referenced throughout the development process.
- **Quality Assurance:** The sequential phases include rigorous testing and validation stages, ensuring that each component meets the specified requirements before proceeding to the next phase.

The identified risks of using this approach and how we will mitigate them
1. **Inflexibility:** The Waterfall model is less flexible when it comes to accommodating changes once the development process has begun.
   Mitigation: We will conduct thorough requirement validation and stakeholder reviews during the planning phase to minimize the need for changes during development.
2. **Late Testing:** Testing occurs at the end of the development cycle, which can lead to the discovery of critical issues late in the project.
   Mitigation: Incorporating interim testing phases and peer reviews at the end of each development stage to identify and address issues early.
3. **Dependency on Initial Requirements:** The success of the Waterfall approach heavily relies on the accuracy of the initial requirements.
   Mitigation: Extensive user research and validation have been conducted to ensure that the initial requirements are comprehensive and accurate.

6.4. Roles & Responsibilities
As we adopt a predictive/Waterfall project management approach for Phase III, we define roles and responsibilities to ensure structured planning, development, and delivery of the application. This approach facilitates clear accountability and systematic progress throughout the project lifecycle. In Phase III, we intend to have a hybrid team consisting of 80% outsourced and 20% in-house personnel. However, this decision will be reviewed during the initiation and planning stage of Phase III. Below we have a high-level view of the core in-house team structure, which will also be refined during the initiation phase of Phase III.

Project Manager:
Project Manager will oversee the overall project management, ensuring that all phases are completed on time, within scope, and within budget. He / She will coordinate tasks, manage schedules, and ensure that the team adheres to the Waterfall methodology. He / She will also handle communication with stakeholders, providing updates on project progress and addressing any issues that arise.

Development Team:
This team will be responsible for the actual development of the PetVenture application. They will follow the detailed implementation plan, ensuring that each phase is completed according to the timeline and quality standards.

Key Benefits of Defined Roles in Waterfall Approach
- **Clear Structure and Accountability:** Each role has well-defined responsibilities, ensuring that all team members understand their tasks and are accountable for their deliverables.
- **Better Coordination:** The defined roles will allow us to improve coordination among team members and stakeholders, ensuring that our communication is clear and effective.

6.5. Handling Scope, Change, Risk & Issues
Managing scope, change, risk, and issues is critical to the success of the PetVenture project. The following approaches are adopted:

- **Scope Management:** In order for our project to succeed we will clearly define and make sure the project scope is maintained to avoid scope creep. Any changes to the scope will be documented, reviewed, and approved by the Product Owner before implementation and registered in the scope version document.

- **Change Management:** A change control process will be established to handle changes in project requirements. For example, using the Integrated Change Control method, change requests will be logged using a change request form with detailed information about the change, its rationale, and expected benefits. Each request will be analyzed for its impact on the project scope, schedule, budget, and resources. Approved changes are then incorporated into the project plan, relevant team members are informed, and the impact of the change will be monitored throughout its implementation to ensure it delivers the expected benefits without adversely affecting the project.

- **Risk Management:** Potential risks identified during the project planning and subsequent project execution will be mitigated using strategies to minimize their impact We have separated our strategies into the following categories:
  - **Avoid:** Changing the project plan to eliminate the risk. For example, simplifying certain features to reduce development time and avoid delays.
  - **Transfer:** Shifting the impact of the risk to a third party. For example, obtaining insurance to cover potential financial losses due to unforeseen issues.
  - **Accept:** Acknowledging the risk and preparing to manage its impact if it occurs. For example, accepting the risk of new competitors and planning to continuously innovate and improve the application

- **Mitigate:** Reducing the likelihood or impact of the risk. For example, conducting extensive user research and marketing campaigns to attract more pet sitters and establishments to the application

Some of our previously identified risks and mitigation strategies include:

Risk	Impact	Likelihood	Mitigation Strategy
Low Number of Users	Moderate	Moderate	• Implement robust marketing strategies • Offer promotions and incentives for new users • Continuously enhance app features based on user feedback
Pet Sitters Not Using the App	High	Moderate	• Offer reduced fees for early adopters • Provide comprehensive onboarding and support • Highlight app benefits through targeted marketing campaigns
Competitors Entering the Market	High	Moderate	• Continuously innovate the app • Offer unique features • Maintain high user satisfaction to retain our user base
Establishments Not Partnering	Moderate	Moderate	• Provide clear value propositions to establishments • Offer initial free listings • Demonstrate potential for increased business through app partnerships
Development Delays	Moderate	Low	• Avoid overloading Sprints with tasks • Ensure realistic time estimates during planning • Consider outsourcing certain development tasks
Regulatory Law Problems	High	Low to Moderate	• Ensure compliance with relevant laws from the outset • Consult legal experts • Stay updated on regulatory changes

Table 14: Identified Risks and Mitigation Strategy.

6.6. Quality Assurance & Deployment

To ensure that PetVenture properly functions across various platforms and devices while maintaining the security and privacy of user data, we will implement a comprehensive Quality Assurance (QA) and Deployment strategy. This strategy will be executed continuously throughout the project lifecycle, from requirements gathering to the final deployment of the mobile application.

6.6.1. Quality Assurance (QA) Strategy

6.6.1.1. Functional Testing

- **Objectives:** Ensure all app features work as intended.
- **Scope:**
  - Test features such as searching for pet-friendly establishments, locating pet sitters, and browsing the pet marketplace.

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- o Test across different devices (iOS, Android) and screen sizes for compatibility.
- o Conduct testing under various network conditions to ensure performance in different connectivity scenarios.
- **Tools:**
  - o Jira for bug tracking and test case management.

6.6.1.2.   Usability Testing
- **Objectives:** Assess the app's ease of use and intuitiveness.
- **Scope:**
  - o Gather feedback from potential users to identify pain points in navigation or usability.
  - o Iterate on design based on user feedback.
- **Tools:**
  - o Lookback for both usability testing and feedback collection

6.6.1.3.   Compatibility Testing
- **Objectives:** Ensure compatibility across different environments.
- **Scope:**
  - o Test on various web browsers and verify compatibility with the latest versions.
  - o Verify compatibility with different operating systems and versions (iOS, Android).
- **Tools:**
  - o BrowserStack for cross-browser and cross-platform testing

6.6.1.4.   Security Testing
- **Objectives:** Identify and mitigate potential security vulnerabilities.
- **Scope:**
  - o Conduct security assessments to prevent data breaches and unauthorized access.
- **Tools:**
  - o New Relic

6.6.1.5.   Performance Testing
- **Objectives:** Ensure the app performs well under different load conditions.
- **Scope:**
  - o Assess the app's performance during peak usage to prevent slowdowns or crashes.
  - o Optimize loading times and minimize resource usage.
- **Tools:**
  - o Apache JMeter for performance testing.

6.6.1.6.   Regression Testing
- **Objectives:** Ensure new updates or features do not introduce bugs.
- **Scope:**
  - o Continuously run regression tests to maintain app stability.
  - o Automate regression testing where possible to streamline the QA process.
- **Tools:**
  - o Selenium, Appium for automated regression testing

6.6.2. Deployment Strategy

6.7.2.1. Continuous Integration/Continuous Deployment (CI/CD)
- **Objectives:** Automate the build, testing, and deployment processes.
- **Scope:**
  - Implement CI/CD pipelines to enable frequent updates and releases without manual intervention.
- **Tools:**
  - GitLab CI/CD for pipeline management.

6.7.2.2. Staging Environment
- **Objectives:** Thoroughly test new features and updates before production
- **Scope:**
  - Maintain a staging environment for final rounds of QA testing
- **Tools:**
  - Docker for environment management.

6.7.2.3. Rollout Strategy
- **Objectives:** Gradually deploy updates to ensure stability.
- **Scope:**
  - Roll out updates in phases, starting with a small percentage of users.
  - Monitor key metrics such as crash rates, user engagement, and feedback to assess update impact.
- **Tools:**
  - Firebase paired with RemoteConfig, for phased rollout management and monitoring

6.7.2.4. Monitoring and Feedback
- **Objectives:** Track app performance and gather user feedback in real-time.
- **Scope:**
  - Implement monitoring tools to track app performance and user feedback.
  - Actively respond to user feedback and bug reports, prioritizing issues based on severity and impact.
- **Tools:**
  - Google Analytics for engagement and metrics, Sentry for performance monitoring and bug tracking.

To ensure the quality expected by our users, we will implement both the QA and Deployment strategies. By adhering to these strategies, we will be able to deliver a robust, reliable, and secure application. This approach will ensure good performance across various platforms and devices, while also protecting user data, and support continuous improvement based on user feedback and emerging needs. Consequently, PetVenture will maintain a superior user experience and consistently meet the evolving expectations of our users.

6.7. Sustainability & Social Responsibility
At PetVenture, our team believes in fostering a thriving pet community while prioritizing the well-being of our planet. Sustainability lies at the heart of our mission as we strive to create a platform that not only connects pet owners with markets, restaurants, and fellow enthusiasts but also promotes eco-conscious practices and responsible pet ownership.

Our corporate responsibility process will rely on these guidelines:

- **Eco-Friendly Practices**: We are committed to implementing eco-friendly practices within PetVenture's operations. This involves reducing paper usage by digitizing receipts and documents, utilizing energy-efficient servers, and encouraging our users to choose digital communication over physical mail.
- **Encourage Sustainable Transportation**: We will partner with pet-friendly transportation services such as electric car rentals or bike-sharing programs. Promote walking or cycling to nearby pet markets and restaurants, reducing reliance on cars and lowering emissions.
- **Promote Local Businesses**: We want to highlight and prioritize local pet markets and pet-friendly restaurants within the application. Supporting local businesses reduces the environmental impact associated with long-distance transportation and fosters community engagement.
- **Encourage Responsible Pet Ownership**: We will provide resources and information within the app to promote responsible pet ownership, including tips on sustainable pet care practices, eco-friendly pet products, and adoption/rescue options.
- **Reduce Food Waste**: We will like to partner with pet food vendors to donate surplus or near-expiry pet food to animal shelters or rescue organizations. Additionally, educate users about proper portioning and storage to minimize food waste at home.
- **Community Engagement and Education**: Organize local clean-up events, pet adoption drives, or educational workshops on sustainability and pet care. Encourage users to participate in community initiatives and share their own sustainability tips and experiences within the application
- **Transparency and Accountability**: We want to maintain transparency regarding the app's sustainability initiatives, progress, and impact. We will publish annual sustainability reports detailing environmental performance metrics, goals achieved, and areas for improvement.

PetVenture will consolidate various services into a single, user-friendly platform, reducing the need for multiple applications. This lowers digital clutter and improves resource efficiency. The app promotes sustainable practices by making it easy to access local pet markets and pet-friendly locations, encouraging users to support their local economies and reduce their environmental footprint. Additionally, PetVenture provides a reliable platform for pet sitters to find jobs, contributing to the sustainability of the gig economy and fostering stable employment opportunities. Overall, PetVenture enhances the convenience and quality of pet care while aligning with sustainable practices, promoting a more eco-friendly and economically resilient pet care community.

7. Conclusion

In wrapping up this project, we reflect on the journey of creating PetVenture and its potential future developments. This section will touch our reflections on the project and elaborate on the next steps we intend to pursue in order to ensure PetVenture's success.

7.1. Project Reflection

PetVenture has been a challenging endeavour, involving extensive research, planning and learning. Reflecting on our journey, several key insights emerge:

- **Validation of Needs:** Our primary research affirmed the substantial demand for a centralized pet care platform. Pet owners expressed a clear need for features such as pet-friendly establishment locators, reliable pet sitting services, and robust support systems. This validation reinforced our commitment to creating a user-centric application.

- **Design and Development:** The solution design phase was critical in translating user needs into functional features. By utilizing modern tools, technologies and incorporating user feedback, we developed a comprehensive prototype suite of features that enhance the pet care experience. The iterative design process ensured that each feature was fine-tuned to meet user expectations effectively, albeit more study and future improvements are on our sights.

- **Challenges and Learnings:** Throughout the project, we encountered several challenges, including technical hurdles, lack of knowledge, multi-cultural differences and user adoption concerns. Addressing these challenges required adaptive strategies and collaborative efforts. Each obstacle provided valuable learning opportunities, shaping our approach and improving the overall project outcome.

- **Stakeholder Engagement:** Engaging with stakeholders, including pet owners, pet sitters, and industry experts, was instrumental in refining our platform. Their insights and feedback guided critical decisions, ensuring that PetVenture remains aligned with market needs and trends

7.2. Future Steps

Looking ahead, several strategic steps are planned to ensure the continued growth and success of PetVenture:

- **Feature Expansion:** Building on the MVP, we plan to introduce additional features such as a pet products marketplace, pet owner socializing events, and lost pet recovery services. These enhancements will broaden the platform's appeal and provide more value to users.

- **Technology Integration:** Future updates will focus on integrating advanced technologies such as AI for personalized recommendations and IoT for pet wearable device pairing. These integrations will enhance the user experience and offer innovative solutions for pet care.

- **User Base Growth:** A comprehensive marketing strategy will be implemented to increase user adoption and retention. This strategy includes targeted campaigns, partnerships with pet care businesses, and community engagement initiatives.

- **Continuous Improvement:** We will maintain a feedback loop with users to continually assess and improve the platform. Regular updates and enhancements based on user feedback will ensure that PetVenture evolves to meet changing needs and preferences.

- **Sustainability and Social Responsibility:** Commitment to sustainability and social responsibility will be a cornerstone of our future steps. Initiatives such as eco-friendly practices, community outreach programs, and partnerships with animal welfare organizations will be integral to our growth strategy.

In conclusion, PetVenture is poised to revolutionize the pet care industry by providing a comprehensive, user-friendly platform that meets the diverse needs of pet owners. The journey so far has been both challenging and rewarding, and we look forward to the exciting developments that lie ahead.

8. Appendix

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8.2. Artefacts

8.2.1. Team Working Agreements

Group 1 – Case Study Charter

Group Members and Roles:

Mr. Ganesh Sudershan Mudaliar – Product Owner & Development Team
Ms. Chloe Marques – Scrum Master & Development Team
Mr. José Nilton– Development Team
Ms. Heather Lynn Church - Development Team
Ms. Lorena Rojas – Development Team

Communication Channels:

WhatsApp Group "UEM MPM – Case Study"
MS Teams Group "Case Study"
Mailing List:
HeatherLynnChurch@gmail.com
chloemarques07@gmail.com
lirg1303@gmail.com
joseniltonmendoncajunior@gmail.com
mudaliar.s.ganesh@gmail.com

Tools to be used:

MS Office Suite (Word, Excel, and PowerPoint) – Documentation, Analysis, and Presentation etc.
Miro – Team Collaborative working
Figma – Website & App Mock-ups
Teams / SharePoint – File Sharing
MS Planning

Team Agreements:

- Conflicts will be resolved through the following process:
  o Through a group poll, however the results must be unanimous
  o In the event a unanimous decision cannot be established a 3rd person moderation will be used
- Sprint will be executed only on weekdays i.e., no sprint on weekends
- No work after class hours i.e., 9:30 PM
- Weekdays working / collaborating time TBD

Expectations from the exercise:

- Expecting it to be a good learning experience wherein we will deliver something of value at the end of it
- Not expecting it to be another academic task which is done just for the sake of doing it
- Before starting any task, share your honest opinions with everyone to reduce possibility of conflicts

8.2.2. Agile Inception

AGILE INCEPTION – PETS

Why are we here?

- Provide a unique and intuitive platform for pet owners to navigate and explore neighbourhoods with a focus on understanding pet friendly establishments to plan their activities
- Provide them with pet sitting support at short notice on "need basis"
- Additional benefits of being a pet owner through promotional partner programs (animal wellbeing, healthcare / insurance, diet, training, accessories etc.)
- A roadmap to shape into a "Pet Ecosystem" that can be called "A True Pet Social Media"

Elevator Pitch x

- PetVenture solves the headache of finding pet-friendly spots in Madrid and beyond. Our app features an interactive map of pet-welcoming establishments, plus an Uber-like service for last-minute pet sitting. With plans for global expansion and multiple revenue streams, PetVenture is the ultimate companion for pet owners on the go. Say goodbye to stress and hello to hassle-free adventures with PetVenture!

Design a Product Box

- "<Business Name>: Where Every Paw Finds a Welcome Mat!"
- "<Business Name>: Making Pet-Friendly Travel a Breeze!"
- "Tailored for Tails: <Business Name> Makes Pet-Friendly Easy!"

Create a NOT list:

- In scope:
  - o Listing and rating of local pet friendly establishments with options to comment and tag
  - o Providing real-time pet sitters through a network of volunteers or part timers etc.
  - o Providing a rating and feedback option both ways owners to/from sitter and or owner to/from establishment
  - o Inclusion of pet product / service ecosystem through advertising / partner promotion with feedback and rating option

- Out of scope:
  - o Ownership / responsibility of the products / services offered

- Undecided:
  - o Provide real time tracking of the pet sitter / pets
  - o Provide real time feed of pets when with pet sitters

Meet your neighbours:

- Establishments, Satellite/Map Platform, Pet related product / service businesses, Volunteers/ Part-timers, Payment gateways, Pets represented by the owners, Legal compliance experts, Data Safety & Privacy experts, user authenticity validation etc.

Show the solution – User Journey:

- Pet Owner user journey:

8.2.3. Survey Questionnaire

Welcome to the Pawspective Survey!

At **The Visionary Quartet**, we're committed to creating a pawsitive experience for pet owners everywhere. That's why we're reaching out to you, our valued pet owners, to gather your insights and feedback on our upcoming platform which we are developing as part of our **Masters program at Universidad Europea De Madrid**.

Our platform aims to make life easier for pet owners by providing some essential services in one convenient app. But to ensure that we're meeting your needs and expectations, we need your help! By participating in this survey, you'll have the opportunity to share your experiences, preferences, and suggestions which will help us tailor our platform to better serve you and your furry companions.

Your feedback is crucial in shaping the future of pet care services, and we're grateful for your participation. Thank you for being a part of this initiative and for helping us build a brighter future for pets and their owners alike!

* Indicates required question

Pet Ownership and Behavior

1. How many pets do you own? *

   Mark only one oval.

   ⬭ 1
   ⬭ 2
   ⬭ Other: _____

2. What type of pet(s) do you have?

   _____

3. How often do you take your pet(s) out to pet-friendly establishments? *

Mark only one oval.

◯ Daily

◯ Several times a week

◯ One time a week

◯ Occasionally

◯ Rarely

◯ Other: _____

4. What types of pet-friendly establishments do you frequent the most? *

Check all that apply.

☐ Outdoor Activities - e.g. Dog Parks, Outdoor Recreation Areas, Pet-friendly Events

☐ Dining and Socializing - e.g. Cafés and Restaurants, Pet-friendly Workplaces

☐ Shopping and Services - e.g. Malls / Stores, Salons, Clinics

☐ Travel and Accommodations - e.g. Hotels, Hostels, Accommodations

☐ Other: _____

Pet Sitting and Care

5. Have you ever used a pet-sitting service before? *

Mark only one oval.

◯ Yes

◯ No

6. If yes, what factors influenced your decision to use a pet-sitting service? *

Check all that apply.

☐ Practical Considerations: Work / Travel Obligations, Lack of Pet-friendly Accommodations, Emergency Situations etc.

☐ Pet Well-being: Specialized Care Needs, Peace of Mind etc.

☐ Convenience and Reliability: Convenience Previous Positive Experience Reputation and Reviews etc.

☐ Other: _____

7. How often do you require pet-sitting services? (e.g., daily, weekly, occasionally) *

Mark only one oval.

◯ Daily

◯ Weekly

◯ Occasionally (few times a month)

◯ Rarely (few times a year)

◯ Other: _____

8. What features do you consider essential in a pet-sitting service? *

Check all that apply.

☐ Experienced and Trustworthy

☐ Pet-specific Training

☐ Emergency Preparedness & Safety Measures

☐ Easy Communication & Regular updates

☐ Flexible Scheduling (Time & Location)

☐ Additional Pet Care: grooming, walking, playtime, providing pet supplies while sitting

☐ Additional Home care: bringing in mail, watering plants, cleaning, baby sitting etc.

☐ Other: _____

App Preferences

9. **What features would you like to see in a new app designed for pet owners like yourself?** *

Check all that apply.

- [ ] Pet-Friendly Establishment Finder
- [ ] Vet Locater
- [ ] Lost & Found
- [ ] Event Calendar
- [ ] On-Demand Pet services: Pet sitting for eg.
- [ ] Training Resources
- [ ] Pet Health Tracker
- [ ] Pet Socialization platform
- [ ] Community forum
- [ ] Pet product / service review and marketplace
- [ ] Pet buying / selling / adoption
- [ ] Other: _____

10. **Would you be interested in using an app that provides details of pet-friendly establishments and offers on-demand pet-sitting services?** *

Mark only one oval.

- ( ) Yes
- ( ) No
- ( ) I don't know

11. **How much do you pay (or are willing to pay) for pet sitting (per hour) on an average?** *

Mark only one oval.

- ( ) Under 10 €
- ( ) 10 € - 15 €
- ( ) up to 20 €
- ( ) I don't mind paying more than 20 €, if the pet is safe and well taken care off
- ( ) Other: _____

12.   If you want to follow the progress of the project and potentially be a beta-tester, please leave us your contact information :)

8.2.4. Survey Responses

Welcome to the Pawspective Survey!

35 responses

Publish analytics

Pet Ownership and Behavior

How many pets do you own?
35 responses
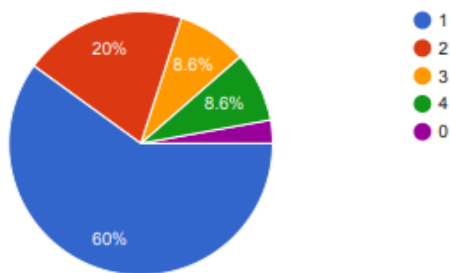
What type of pet(s) do you have?
35 responses
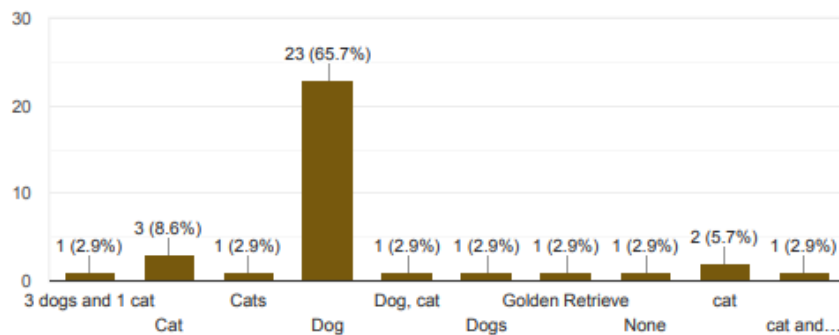
5/31/24, 9:48 PM   Welcome to the Pawspective Survey!

How often do you take your pet(s) out to pet-friendly establishments?   Copy

35 responses

- Daily
- Several times a week
- One time a week
- Occasionally
- Rarely
- Once every 8 weeks for groo…
- Never, she's a scared little ho…
- None
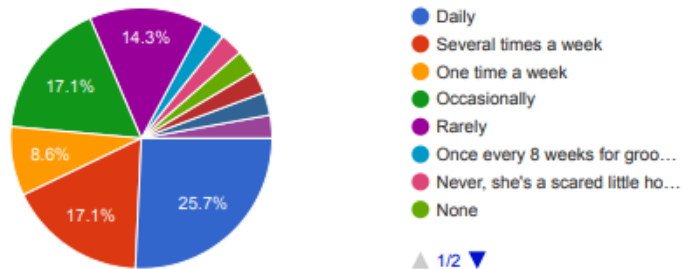
1/2

What types of pet-friendly establishments do you frequent the most?   Copy

35 responses

Outdoor Activities - e.g.…	26 (74.3%)
Dining and Socializing - e…	20 (57.1%)
Shopping and Services -…	7 (20%)
Travel and Accommodati…	14 (40%)
N/A	2 (5.7%)
None	1 (2.9%)
When visiting my parents	1 (2.9%)
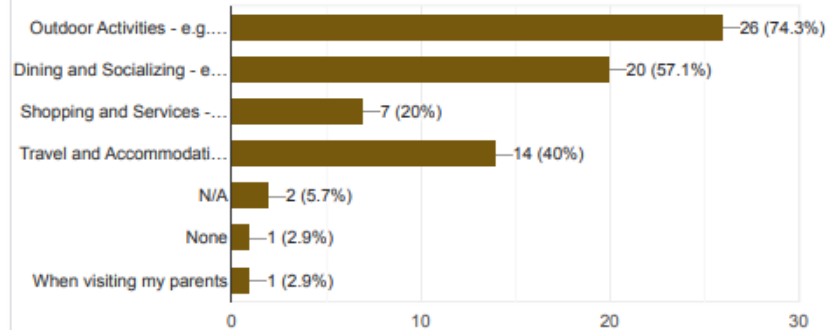
Pet Sitting and Care

Have you ever used a pet-sitting service before?   Copy

35 responses

- Yes
- No

54.3%
45.7%

Universidad Europea   68
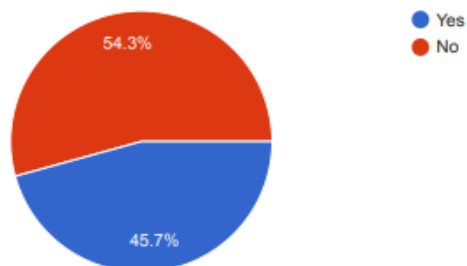
5/31/24, 9:48 PM   Welcome to the Pawspective Survey!

If yes, what factors influenced your decision to use a pet-sitting service?   ⧉ Copy
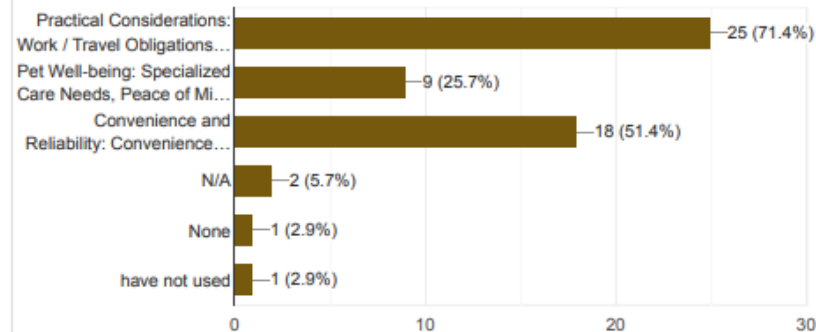
35 responses

How often do you require pet-sitting services? (e.g., daily, weekly, occasionally)   ⧉ Copy

35 responses

Legend:
- Daily
- Weekly
- Occasionally (few times a mo...
- Rarely (few times a year)
- N/A
- Housing while we are out on f...
- Few weeks a year
- Generalmente dejo a mis ma...

△ 1/2 ▽
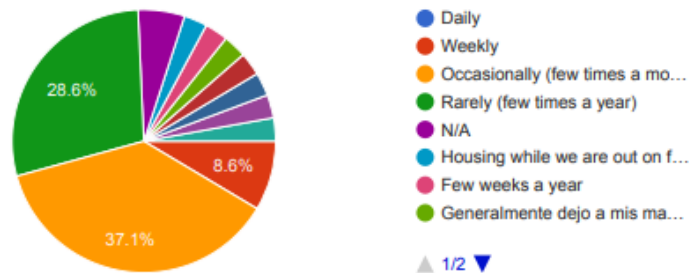
What features do you consider essential in a pet-sitting service?   ⧉ Copy
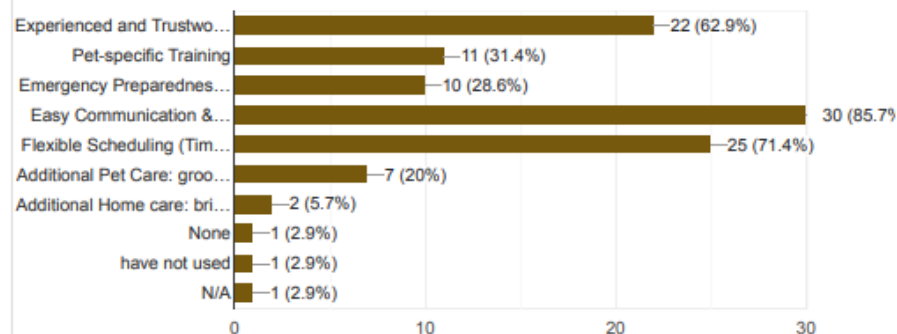
35 responses

App Preferences

5/31/24, 9:48 PM   Welcome to the Pawspective Survey!

What features would you like to see in a new app designed for pet owners like yourself?

🗐 Copy

35 responses
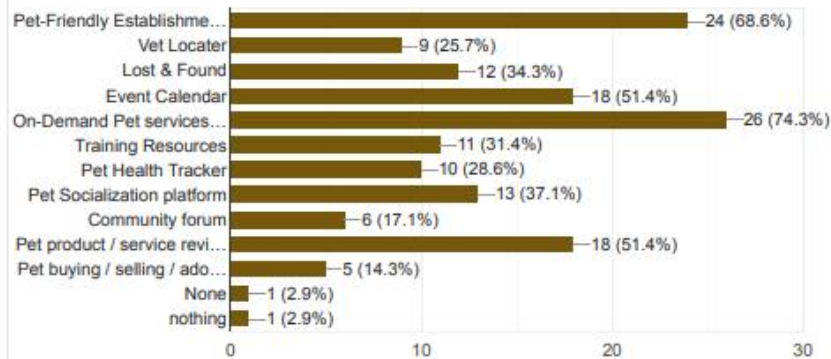
- Pet-Friendly Establishme... — 24 (68.6%)
- Vet Locater — 9 (25.7%)
- Lost & Found — 12 (34.3%)
- Event Calendar — 18 (51.4%)
- On-Demand Pet services... — 26 (74.3%)
- Training Resources — 11 (31.4%)
- Pet Health Tracker — 10 (28.6%)
- Pet Socialization platform — 13 (37.1%)
- Community forum — 6 (17.1%)
- Pet product / service revi... — 18 (51.4%)
- Pet buying / selling / ado... — 5 (14.3%)
- None — 1 (2.9%)
- nothing — 1 (2.9%)

Would you be interested in using an app that provides details of pet-friendly establishments and offers on-demand pet-sitting services?

🗐 Copy

35 responses

- Yes
- No
- I don't know

74.3%
20%
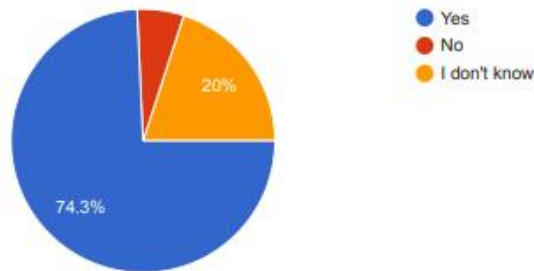
How much do you pay (or are willing to pay) for pet sitting (per hour) on an average?

🗐 Copy

35 responses

- Under 10 €
- 10 € - 15 €
- up to 20 €
- I don't mind paying more than...
- Up to 35 $ per night
- No me importa pagar hasta 2...
- $50 for the day
- 50$ per day

△ 1/2 ▽

40%
11.4%
20%
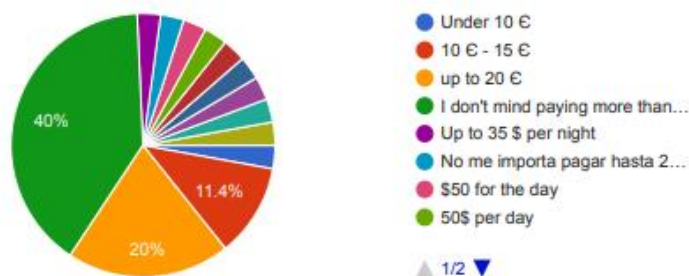
5/31/24, 9:48 PM   Welcome to the Pawspective Survey!

If you want to follow the progress of the project and potentially be a beta-tester, please leave us your contact information :)

5 responses

Yes I would like to follow this project

No thank you but good luck!

Todo lo mejor y espero ver tu aplicación pronto.

Yes

bao.bubu@gmail.com

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Google Forms

8.2.5.   Marketing Mix – Advertising Campaigns

8.2.6. Marketing Mix – Content Marketing

CONTENT CALENDAR

Social Media	Week 1	Week 2	Week 3	Week 4
Facebook	■		■	
X	■	■	■	■
Instagram	■	■	■	■
LinkedIn	■		■	

FACEBOOK & LINKEDIN

POST

🐾🌟 Discover the Secret to a Happy Senior Dog ! 🌟🐾

Is your furry friend slowing down as they age ? Don't worry, because there's good news ! Exercise isn't just for the young pups; it's also essential for our beloved senior dogs. 🐶🐾

Check out our latest blog article where we delve into "**The Benefits of Exercise for Senior Dogs.**" Learn how keeping your older pooch active can improve their quality of life, boost their mood, and even extend their years of joy with you. 🎾🐕

Read the full article here : [Link to the Blog Article]

Let's keep our senior companions healthy, happy, and enjoying every moment of life ! ❤️🐾

#SeniorDogCare #HealthyHabits #ForeverYoung #DogLovers

Subjects:

Monday (April 1st): Blog article "The Benefits of Exercise for Senior Dogs"

Monday (April 8th): Article "Pet Food Trends in 2024".

Monday (April 15th): Video tutorial "How to Make a DIY Toy for Cats from Recycled Materials".

Monday (April 22nd): LinkedIn post - Article "Different Training Methods for Dogs".

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X

PetVenture ✓
@PetVenture

😺🐾 Don't let seasonal allergies ruin your kitty's springtime bliss! Our Tip of the Week is here to help you keep your feline friend happy and healthy. Learn how to prevent seasonal allergies in cats and ensure they enjoy the sunny days ahead without any sniffles or sneezes. #CatCare #AllergyPrevention 🐱🐾

Subjects:

Wednesday (April 3rd): Tip of the Week: "How to Prevent Seasonal Allergies in Cats".

Friday (April 12th): Sharing an external article on puppy socialization.

Wednesday (April 17th): Announcement of an online event: "Webinar on Home Dog Training".

Friday (April 26th): Sharing a blog article on outdoor activities to do with your dog in spring

INSTAGRAM

Subjects:

Friday (April 5th): Post - Photo of the Week: A dog enjoying the spring sun.

Wednesday (April 10th): Story - Grooming Tip: "How to effectively brush your dog's coat".

Friday (April 19th): Post - Highlighting a customer testimonial on the benefits of our app for pet owners.

Wednesday (April 24th): Story - FAQ of the Week: "Answering questions about pet nutrition".

8.2.7. Marketing Mix – Performance Monitoring

GOAL 1
Reach 10,000 app downloads within 30 days of official launch

S — By aiming for a specific number of application downloads

M — By counting the number of downloads of the application on distribution platforms

A — Goal depending on the quality of the app, the marketing strategy implemented and the target audience identified

R — Implement effective marketing strategies such as targeted advertising campaigns, influencer partnerships, attractive launch promotions...

T — Specific period of 30 days after the official launch of the app

GOAL 2
Achieve a 10% conversion rate from website users to app downloads

S — Convert a specific percentage of website users into app downloads

M — By tracking the percentage of website users who actually download the app within 60 days of launch

A — Goal depending on the quality of the application, the marketing strategy implemented and the engagement of website users

R — Implement tactics such as compelling calls to action on the website, incentives to download the app, targeted ads...

T — Specific period of 60 days after the official launch of the app

GOAL 3
Achieve a spontaneous awareness rate of 15% among the target audience

S — Measure the spontaneous awareness of the application

M — By surveying a representative sample of the target audience to assess the percentage of people who spontaneously mention the app

A — Goal depending on the quality of the application, the communication strategy and the scope of marketing efforts

R — Implement multi-channel marketing campaigns, public relations, strategic partnerships and other tactics to increase brand visibility and recognition among the target audience

T — Specific period of 90 days after the app launch

8.2.8. Marketing Mix – Referral Programs

Share your love for animals and reap the rewards!

Invite your friends to join our community dedicated to pets and together, let's make the lives of our companions even more beautiful. Think of all those moments of shared happiness and the rewards that await you. :)

STEPS

Creating an account

The person referred must create an account on the application for the referral to be validated.

Validation of e-mail address or telephone number

The person referred must confirm their e-mail address or telephone number for the reference to be considered valid.

Use of the application

The person referred must use the application for a specified minimum period or carry out a specific action, such as completing their profile or placing their first order.

Sharing the referral link

The person referred must use the referral link provided by the referrer when registering for the application.

BE CAREFUL...

Non-compliance with the rules of conduct

The referral will not be valid if the person referred is found to be in breach of the rules or conditions of use of the application.

Referral limit

Limit the number of referrals a user can make to prevent abuse of the system.

Share your love of animals and earn rewards.
Join us now !

8.2.9. Financial Projections – Revenue Stream Calculations

	Worst-Case		Ideal-Case		Best-Case	
	Monthly	Annual	Monthly	Annual	Monthly	Annual
Assumptions -->	Active Users on the platform 5,000 Annual User growth rate 10% Total Establishment on the app 250 Total Affiliated business on the app 125 Annual Establishment growth rate 5% Annual Affiliated business growth rate 5%		Active Users on the platform 10,000 Annual User growth rate 15% Total Establishment on the app 350 Total Affiliated business on the app 175 Annual Establishment growth rate 7.5% Annual Affiliated business growth rate 7.5%		Active Users on the platform 20,000 Annual User growth rate 20% Total Establishment on the app 500 Total Affiliated business on the app 250 Annual Establishment growth rate 10% Annual Affiliated business growth rate 10%	
Revenue Streams						
Subscription Fee Premium members pay €5 per month for ad-free experience, special deals, promotions, and free pet sitting hours. (20% of total users will opt for Premium Membership)	5,000 €	60,000 €	10,000 €	1,20,000 €	20,000 €	2,40,000 €
Registration Fee (Marketplace) Affiliated businesses pay an annual fee of €150 to join our marketplace.	1,563 €	18,750 €	2,188 €	26,250 €	3,125 €	37,500 €
Promotion Fee (Establishment) listed establishments can opt for premium listings by paying €50 per month. (25% of total establishment will opt for premium listing)	3,125 €	37,500 €	4,375 €	52,500 €	6,250 €	75,000 €
Commission (Pet Sitting) €5 is the flat commision for first hour (hourly sitting service). 10% commission on the billing from 2nd hour for hourly sitting, on total bill for daily and 10 day billing. (10% of total users will use pet sitting service per month. - 50% of which opt for 1 hour - 35% of which opt for 2 hours - 12% of which opt for 1 day - 3% of which opt for 10 day)	2,585 €	31,020 €	5,170 €	62,040 €	10,340 €	1,24,080 €
Commission (Marketplace sales) 5% on the sale value. (10% of average user base make an average purchase of €50 per month)	1,250 €	15,000 €	2,500 €	30,000 €	5,000 €	60,000 €
Advertising Revenue: Freemium users generate AD impressions. Click through rate (CTR) of 0.10%, Cost Per Click (CPC) of € 0.10. (80% of active users are Freemium users)	40 €	480 €	80 €	960 €	160 €	1,920 €
Total	13,563 €	1,62,750 €	24,313 €	2,91,750 €	44,875 €	5,38,500 €

BCG Matrix

Legend:

These services have a high market share and a high growth rate.

These services have a high market share but low growth.

These services have a low market share but a high growth rate.

This service has a low market share and low growth.

MARKET GROWTH

HIGH

LOW

Stars

Pet-Friendly Establishment Finder

Pet sitter finder

Question Marks

On-Demand Pet Sitting Services

Pet Socializing

Cash Cows

User Support, FAQs, and AI Bots

Marketplace and Forum

Dog

Pet Wearable Device Pairing

LOW

HIGH

MARKET SHARE

8.2.11. Financial Projections – Revenue Calculations Worst Case

Assumptions

Total number of users	5,000.00	Pet sitting first hour	€ 20.00	Percentage growth of sponsored Establishment	5.00%
User growth rate (yearly)	10.00%	Pet sitting second hour onwards	€ 15.00	Sponsored Establishment listing fee (per month)	€ 50.00
Percentage of free users	80.00%	Pet sitting first hour commission	€ 5.00	Affiliated business listing fee (yearly)	€ 150.00
Percentage of Premium users	20.00%	Pet sitting commission from 2nd hour	10%	Affiliated business commision %	5.00%
Total number of listed Establishment	250	Pet sitting per day	€ 60.00	Click Through Rate (CTR) for ads	0.10%
Percentage of Free Establishment	75.00%	Pet sitting per day commission	€ 6.00	Cost Per Click (CPC) for ads	€ 0.10
Percentage of sponsored listing Establishment	25.00%	Pet sitting 10 days	€ 475.00	Average sales through affiliated marketing	100
Total number of Affiliated businesses listed	125	Pet sitting 10 days commission	€ 47.50	Average sale value through Affiliated marketing	€ 50.00

Revenue Streams	Unit Price	Volume	Impressions	Month	Quarter	Year 1	Year 2	Year 3	Year 4	Year 5	Comment
Subscriptions (Per month)	€ 5.00	20.00%	100.00%	**€ 5,000.00**	**€ 15,000.00**	**€ 60,000.00**	**€ 66,000.00**	**€ 72,600.00**	**€ 79,860.00**	**€ 87,846.00**	
Pet Sitting		500									Average instances of pet sitting usage per month
Hourly (1st hour)	€ 20.00		50.00%	€ 1,250.00	€ 3,750.00	€ 15,000.00	€ 16,500.00	€ 18,150.00	€ 19,965.00	€ 21,961.50	
2nd hour onwards	€ 15.00		35.00%	€ 262.50	€ 787.50	€ 3,150.00	€ 3,465.00	€ 3,811.50	€ 4,192.65	€ 4,611.92	
Daily	€ 60.00		12.00%	€ 360.00	€ 1,080.00	€ 4,320.00	€ 4,752.00	€ 5,227.20	€ 5,749.92	€ 6,324.91	
10 days	€ 475.00		3.00%	€ 712.50	€ 2,137.50	€ 8,550.00	€ 9,405.00	€ 10,345.50	€ 11,380.05	€ 12,518.06	
Total from pet sitting commissions				**€ 2,585.00**	**€ 7,755.00**	**€ 31,020.00**	**€ 34,122.00**	**€ 37,534.20**	**€ 41,287.62**	**€ 45,416.38**	
Sponsored Listing of Establishment (monthly)	€ 50.00	62.5	100.00%	**€ 3,125.00**	**€ 9,375.00**	**€ 37,500.00**	**€ 39,375.00**	**€ 41,343.75**	**€ 43,410.94**	**€ 45,581.48**	
Listing of Affiliated Businesses (annual)	€ 150.00	125	100.00%	N.A.	N.A.	**€ 18,750.00**	**€ 20,625.00**	**€ 22,687.50**	**€ 24,956.25**	**€ 27,451.88**	
Affiliated Business Commission	€ 50.00	500	5.00%	**€ 1,250.00**	**€ 3,750.00**	**€ 15,000.00**	**€ 15,750.00**	**€ 16,537.50**	**€ 17,364.38**	**€ 18,232.59**	
Advertising (per month)	€ 0.10	4000	100	**€ 40.00**	**€ 120.00**	**€ 480.00**	**€ 528.00**	**€ 580.80**	**€ 638.88**	**€ 702.77**	
Total Revenue (before taxes and cost deductions)				€ 14,585.00	€ 43,755.00	**€ 162,750.00**	**€ 176,400.00**	**€ 191,283.75**	**€ 207,518.06**	**€ 225,231.10**	

8.2.12. Financial Projections – Revenue Calculations Ideal Case

Assumptions

Total number of users	10,000.00	Pet sitting first hour	€ 20.00	Percentage growth of sponsored Establishment	7.50%
User growth rate (yearly)	15.00%	Pet sitting second hour onwards	€ 15.00	Sponsored Establishment listing fee (per month)	€ 50.00
Percentage of free users	80.00%	Pet sitting first hour commission	€ 5.00	Affiliated business listing fee (yearly)	€ 150.00
Percentage of Premium users	20.00%	Pet sitting commission from 2nd hour	10%	Affiliated business commision %	5.00%
Total number of listed Establishment	350	Pet sitting per day	€ 60.00	Click Through Rate (CTR) for ads	0.10%
Percentage of Free Establishment	75.00%	Pet sitting per day commission	€ 6.00	Cost Per Click (CPC) for ads	€ 0.10
Percentage of sponsored listing Establishment	25.00%	Pet sitting 10 days	€ 475.00	Average sales through affiliated marketing	100
Total number of Affiliated businesses listed	175	Pet sitting 10 days commission	€ 47.50	Average sale value through Affiliated marketing	€ 50.00

Revenue Streams	Unit Price	Volume	Impressions	Month	Quarter	Year 1	Year 2	Year 3	Year 4	Year 5	Comment
Subscriptions (Per month)	€ 5.00	20.00%	100.00%	**€ 10,000.00**	**€ 30,000.00**	**€ 120,000.00**	**€ 138,000.00**	**€ 158,700.00**	**€ 182,505.00**	**€ 209,880.75**	
Pet Sitting		1000									Average instances of pet sitting usage per month
Hourly (1st hour)	€ 20.00		50.00%	€ 2,500.00	€ 7,500.00	€ 30,000.00	€ 34,500.00	€ 39,675.00	€ 45,626.25	€ 52,470.19	
2nd hour onwards	€ 15.00		35.00%	€ 525.00	€ 1,575.00	€ 6,300.00	€ 7,245.00	€ 8,331.75	€ 9,581.51	€ 11,018.74	
Daily	€ 60.00		12.00%	€ 720.00	€ 2,160.00	€ 8,640.00	€ 9,936.00	€ 11,426.40	€ 13,140.36	€ 15,111.41	
10 days	€ 475.00		3.00%	€ 1,425.00	€ 4,275.00	€ 17,100.00	€ 19,665.00	€ 22,614.75	€ 26,006.96	€ 29,908.01	
Total from pet sitting commissions				**€ 5,170.00**	**€ 15,510.00**	**€ 62,040.00**	**€ 71,346.00**	**€ 82,047.90**	**€ 94,355.09**	**€ 108,508.35**	
Sponsored Listing of Establishment (monthly)	€ 50.00	87.5	100.00%	**€ 4,375.00**	**€ 13,125.00**	**€ 52,500.00**	**€ 56,437.50**	**€ 60,670.31**	**€ 65,220.59**	**€ 70,112.13**	
Listing of Affiliated Businesses (annual)	€ 150.00	175	100.00%	N.A.	N.A.	**€ 26,250.00**	**€ 30,187.50**	**€ 34,715.63**	**€ 39,922.97**	**€ 45,911.41**	
Affiliated Business Commission	€ 50.00	1000	5.00%	**€ 2,500.00**	**€ 7,500.00**	**€ 30,000.00**	**€ 32,250.00**	**€ 34,668.75**	**€ 37,268.91**	**€ 40,064.07**	
Advertising (per month)	€ 0.10	8000	100	**€ 80.00**	**€ 240.00**	**€ 960.00**	**€ 1,104.00**	**€ 1,269.60**	**€ 1,460.04**	**€ 1,679.05**	
Total Revenue (before taxes and cost deductions)				€ 27,295.00	€ 81,885.00	**€ 291,750.00**	**€ 329,325.00**	**€ 372,072.19**	**€ 420,732.59**	**€ 476,155.76**	

8.2.13. Financial Projections – Revenue Calculations Best Case

Assumptions

Total number of users	20,000.00	Pet sitting first hour	€ 20.00	Percentage growth of sponsored Establishment	10.00%
User growth rate (yearly)	20.00%	Pet sitting second hour onwards	€ 15.00	Sponsored Establishment listing fee (per month)	€ 50.00
Percentage of free users	80.00%	Pet sitting first hour commission	€ 5.00	Affiliated business listing fee (yearly)	€ 150.00
Percentage of Premium users	20.00%	Pet sitting commission from 2nd hour	10%	Affiliated business commision %	5.00%
Total number of listed Establishment	500	Pet sitting per day	€ 60.00	Click Through Rate (CTR) for ads	0.10%
Percentage of Free Establishment	75.00%	Pet sitting per day commission	€ 6.00	Cost Per Click (CPC) for ads	€ 0.10
Percentage of sponsored listing Establishment	25.00%	Pet sitting 10 days	€ 475.00	Average sales through affiliated marketing	100
Total number of Affiliated businesses listed	250	Pet sitting 10 days commission	€ 47.50	Average sale value through Affiliated marketing	€ 50.00

Revenue Streams	Unit Price	Volume	Impressions	Month	Quarter	Year 1	Year 2	Year 3	Year 4	Year 5	Comment
Subscriptions (Per month)	€ 5.00	20.00%	100.00%	€ 20,000.00	€ 60,000.00	€ 240,000.00	€ 288,000.00	€ 345,600.00	€ 414,720.00	€ 497,664.00	
Pet Sitting		2000									Average instances of pet sitting usage per month
Hourly (1st hour)	€ 20.00		50.00%	€ 5,000.00	€ 15,000.00	€ 60,000.00	€ 72,000.00	€ 86,400.00	€ 103,680.00	€ 124,416.00	
2nd hour onwards	€ 15.00		35.00%	€ 1,050.00	€ 3,150.00	€ 12,600.00	€ 15,120.00	€ 18,144.00	€ 21,772.80	€ 26,127.36	
Daily	€ 60.00		12.00%	€ 1,440.00	€ 4,320.00	€ 17,280.00	€ 20,736.00	€ 24,883.20	€ 29,859.84	€ 35,831.81	
10 days	€ 475.00		3.00%	€ 2,850.00	€ 8,550.00	€ 34,200.00	€ 41,040.00	€ 49,248.00	€ 59,097.60	€ 70,917.12	
Total from pet sitting commissions				€ 10,340.00	€ 31,020.00	€ 124,080.00	€ 148,896.00	€ 178,675.20	€ 214,410.24	€ 257,292.29	
Sponsored Listing of Establishment (monthly)	€ 50.00	125	100.00%	€ 6,250.00	€ 18,750.00	€ 75,000.00	€ 82,500.00	€ 90,750.00	€ 99,825.00	€ 109,807.50	
Listing of Affiliated Businesses (annual)	€ 150.00	250	100.00%	N.A.	N.A.	€ 37,500.00	€ 45,000.00	€ 54,000.00	€ 64,800.00	€ 77,760.00	
Affiliated Business Commission	€ 50.00	2000	5.00%	€ 5,000.00	€ 15,000.00	€ 60,000.00	€ 66,000.00	€ 72,600.00	€ 79,860.00	€ 87,846.00	
Advertising (per month)	€ 0.10	16000	100	€ 160.00	€ 480.00	€ 1,920.00	€ 2,304.00	€ 2,764.80	€ 3,317.76	€ 3,981.31	
Total Revenue (before taxes and cost deductions)				€ 52,090.00	€ 156,270.00	€ 538,500.00	€ 632,700.00	€ 744,390.00	€ 876,933.00	€ 1,034,351.10	

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8.2.14. Financial Projections – Cost Estimate Full App Generic

Activity / Resource	Website Effort (Man days) / Individuals	Website Unit Rate (€)	Website Total	Android Effort (Man days) / Individuals	Android Unit Rate (€)	Android Total	iOS Effort (Man days) / Individuals	iOS Unit Rate (€)	iOS Total
Application Development (Outsourced Resources)									
Development									
Designer (UI/UX)	15	€ 400.00	€ 6,000.00	15	€ 400.00	€ 6,000.00	15	€ 400.00	€ 6,000.00
Developer	156	€ 400.00	€ 62,400.00	112	€ 400.00	€ 44,800.00	108	€ 400.00	€ 43,200.00
Total Development			€ 68,400.00			€ 50,800.00			€ 49,200.00
QA & Testing									
Test Engineer	40	€ 250.00	€ 10,000.00	40	€ 250.00	€ 10,000.00	40	€ 250.00	€ 10,000.00
Total QA & Testing			€ 10,000.00			€ 10,000.00			€ 10,000.00
Miscellaneous Expenses									
Contingency Fund (10% of total budget)			€ 7,840.00			€ 6,080.00			€ 5,920.00
Total Miscellaneous			€ 7,840.00			€ 6,080.00			€ 5,920.00
Total (Per Platform)			€ 86,240.00			€ 66,880.00			€ 65,120.00
Total Development (Collective)					€ 218,240.00				
Maintenance & Ongoing Support (Outsourced Resource)									
Maintenance Activities									
Bug fixes and updates	40	€ 400.00	€ 16,000.00	30	€ 400.00	€ 12,000.00	30	€ 400.00	€ 12,000.00
Feature enhancements	40	€ 400.00	€ 16,000.00	30	€ 400.00	€ 12,000.00	30	€ 400.00	€ 12,000.00
Total Maintenance			€ 32,000.00			€ 24,000.00			€ 24,000.00
Support Activities									
User support and troubleshooting	30	€ 300.00	€ 9,000.00	30	€ 300.00	€ 9,000.00	30	€ 300.00	€ 9,000.00
Total Support			€ 9,000.00			€ 9,000.00			€ 9,000.00
Total (Per Platform)			€ 41,000.00			€ 33,000.00			€ 33,000.00
Total Maintenance & Support					€ 107,000.00				
IT Infrastructure									
IT Infrastructure Costs (annual)									
Server hosting (Cloud)					€ 1,000.00	€ 1,000.00			
Domain registration					€ 20.00	€ 20.00			
SSL certificate					€ 150.00	€ 150.00			
Payment Gateway Integration					€ 500.00	€ 500.00			
Software tools (PM tool, Testing tool etc.)					€ 700.00	€ 700.00			
Laptops (as per Team size)				23	€ 850.00	€ 19,550.00			
Total IT Infrastructure (One Time)					€ 19,550.00				
Total IT Infrastructure (annual)					€ 2,370.00				
Marketing									
Branding and Visual Identity (one time)									
Logo Design				20	€ 50.00	€ 1,000.00			
Brand Style Guide				20	€ 50.00	€ 1,000.00			
Total Branding						€ 2,000.00			
App Store Optimization (ASO) / Search Engine Optimization (SEO) (one time)				20	€ 25.00	€ 500.00			
Social Media Marketing (monthly)									
Content Creation				60	€ 25.00	€ 1,500.00			
Paid Advertising Budget					€ 1,000.00	€ 1,000.00			
Total Social Media						€ 2,500.00			
Influencer Partnerships Fee (Per campaign)				2	€ 1,000.00	€ 2,000.00			
Email Marketing Platform Subscriptio (annual)					€ 100.00	€ 100.00			
Offline Marketing (monthly)									
Printed Materials (Flyers, Posters, etc.)					€ 500.00	€ 500.00			
Event Sponsorships (Per event)				2	€ 1,000.00	€ 2,000.00			
Total Offline Marketing						€ 2,500.00			
Total Marketing					€ 9,600.00				
Remuneration (In house Team)									
Development (Monthly)									
Designer (UI/UX)	1	€ 3,000.00	€ 3,000.00	1	€ 3,000.00	€ 3,000.00	1	€ 3,000.00	€ 3,000.00
Developer	4	€ 3,000.00	€ 12,000.00	3	€ 3,500.00	€ 10,500.00	3	€ 3,500.00	€ 10,500.00
Total Development (Per Platform)			€ 15,000.00			€ 13,500.00			€ 13,500.00
Total Development (Collective)					€ 42,000.00				
QA & Testing									
Test Engineer	1	€ 2,500.00	€ 2,500.00	1	€ 2,500.00	€ 2,500.00	1	€ 2,500.00	€ 2,500.00
Total QA & Testing (Per platform)			€ 2,500.00			€ 2,500.00			€ 2,500.00
Total QA Testing (Collective)					€ 7,500.00				
Marketing									
Content Creator & Designer				1	€ 2,500.00	€ 2,500.00			
Social Media & Online Marketing Executive				1	€ 2,500.00	€ 2,500.00			
Total Marketing					€ 5,000.00				
Management & Support									
Project Manager	1	€ 3,500.00	€ 3,500.00	1	€ 3,500.00	€ 3,500.00	1	€ 3,500.00	€ 3,500.00
Marketing Manager				1	€ 3,500.00	€ 3,500.00			
Customer Support				1	€ 2,500.00	€ 2,500.00			
Total Management (Per platform)			€ 3,500.00			€ 9,500.00			€ 3,500.00
Total QA Testing (Collective)					€ 16,500.00				
Total (Per Platform)			€ 21,000.00			€ 30,500.00			€ 19,500.00
Total Team Size					23				
Total Remuneration					€ 71,000.00				
Infrastructure									
Infrastructure (monthly)									
Hot Desk in Coworking space				12	€ 250.00	€ 3,000.00			
Infrastructure					€ 3,000.00				

Asumptions:
App Complexity: Medium
UI/UX level: Basic
Cross platform development not considered.
Each app platform will be hosted an same cloud infrastructure with different instancess
Office Infrastructure will be in a shared working space and at a 50% capacity of total team size given that we will have a 50% work from home week policy.

Features and capabilities considered:
Email/Password sign in, Facebook Sign In, Google Sign In
User Profile, Ratings Reviews, Searching, QR code scanner
Callendar integration, Display Map data, Display custom Map data, Bookings
Messaging, Forums commenting, Social Sharing
Shopping cart, In-app purchases,Payment information collection
Usage analytics, Crash reporting, Multilingual support
Connect to one or more 3rd party services (APIs)SMS messaging
Two factor authentication

Tool references:
for app effort estimation - https://estimatemyapp.com/
for marketing effort estimation -
for infrastructure effort estimation -
For maintenance and support effort estimation -
For remuneration: https://www.developer-tech.com/news/2021/feb/17/research-how-average-developer-salaries-differ-europe/ , https://www.payscale.com/research/ES/Job=Mobile_Applications_Developer/Salary

8.2.15. Financial Projections – Cost Estimate MVP App Generic

Activity / Resource	Website			Android			iOS		
	Effort (Man days)	Unit Rate (€)	Total	Effort (Man days) / Instances	Unit Rate (€)	Total	Effort (Man days)	Unit Rate (€)	Total
Development									
Designer (UI/UX)	7	€ 400.00	€ 2,800.00	7	€ 400.00	€ 2,800.00	7	€ 400.00	€ 2,800.00
Developer	83	€ 400.00	€ 33,200.00	66	€ 400.00	€ 26,400.00	56	€ 400.00	€ 22,400.00
Total Development			€ 36,000.00			€ 29,200.00			€ 25,200.00
QA & Testing									
Test Engineer	24	€ 250.00	€ 6,000.00	21	€ 250.00	€ 5,250.00	18	€ 250.00	€ 4,500.00
Total QA & Testing			€ 6,000.00			€ 5,250.00			€ 4,500.00
Miscellaneous Expenses									
Contingency Fund (10% of total budget)						€ 10,615.00			
Total Miscellaneous						€ 10,615.00			
Total Development				€ 116,765.00					
Maintenance Activities									
Bug fixes and updates	8	€ 400.00	€ 3,200.00	8	€ 400.00	€ 3,200.00	8	€ 400.00	€ 3,200.00
Feature enhancements (design)	22	€ 400.00	€ 8,800.00	22	€ 400.00	€ 8,800.00	22	€ 400.00	€ 8,800.00
Total Maintenance			€ 12,000.00			€ 12,000.00			€ 12,000.00
Support Activities									
User support and troubleshooting				30	€ 300.00	€ 9,000.00			
Total Support						€ 9,000.00			
Total Maintenance & Support (Overall)				€ 45,000.00					
Technology & Infrastructure (Annual)									
Server Hosting					€ 1,000.00	€ 1,000.00			
Domain Registration					€ 20.00	€ 20.00			
SSL Certificate					€ 150.00	€ 150.00			
Payment Gateway Integration					€ 500.00	€ 500.00			
Software tools (PM tool, Testing tool etc.)					€ 700.00	€ 700.00			
Laptops (as per Team size)				20	€ 850.00	€ 17,000.00			
Total IT Infrastructure (One Time)				€ 17,000.00					
Total IT Infrastructure (annual)				€ 2,370.00					
Branding and Visual Identity (one time)									
Logo Design				20	€ 50.00	€ 1,000.00			
Brand Style Guide				20	€ 50.00	€ 1,000.00			
Total Branding						€ 2,000.00			
App Store Optimization (ASO) /									
Search Engine Optimization (SEO) (one time)				20	€ 25.00	€ 500.00			
Social Media Marketing (monthly)									
Content Creation				30	€ 50.00	€ 1,500.00			
Paid Advertising Budget					€ 1,000.00	€ 1,000.00			
Total Social Media						€ 2,500.00			
Influencer Partnerships Fee (Per campaign)				2	€ 1,000.00	€ 2,000.00			
Email Marketing Platform Subscriptio (annual)					€ 100.00	€ 100.00			
Offline Marketing (monthly)									
Printed Materials (Flyers, Posters, etc.)					€ 500.00	€ 500.00			
Event Sponsorships (Per event)				2	€ 1,000.00	€ 2,000.00			
Total Offline Marketing						€ 2,500.00			
Total Marketing				€ 9,600.00					
Development (Monthly)									
Designer (UI/UX)	1	€ 3,000.00	€ 3,000.00	1	€ 3,000.00	€ 3,000.00	1	€ 3,000.00	€ 3,000.00
Developer	3	€ 3,000.00	€ 9,000.00	2	€ 3,500.00	€ 7,000.00	2	€ 3,500.00	€ 7,000.00
Total Development (Per Platform)			€ 12,000.00			€ 10,000.00			€ 10,000.00
Total Development (Collective)				€ 32,000.00					
QA & Testing									
Test Engineer	1	€ 2,500.00	€ 2,500.00	1	€ 2,500.00	€ 2,500.00	1	€ 2,500.00	€ 2,500.00
Total QA & Testing (Per platform)			€ 2,500.00			€ 2,500.00			€ 2,500.00
Total QA Testing (Collective)				€ 7,500.00					
Marketing									
Content Creator & Designer				1	€ 2,500.00	€ 2,500.00			
Social Media & Online Marketing Executive				1	€ 2,500.00	€ 2,500.00			
Total Marketing						€ 5,000.00			
Management & Support									
Project Manager	1	€ 3,500.00	€ 3,500.00	1	€ 3,500.00	€ 3,500.00	1	€ 3,500.00	€ 3,500.00
Marketing Manager				1	€ 3,500.00	€ 3,500.00			
Customer Support				1	€ 2,500.00	€ 2,500.00			
Total Management (Per platform)			€ 3,500.00			€ 9,500.00			€ 3,500.00
Total Management & Support (collective)				€ 16,500.00					
Total (Per Platform)			€ 18,000.00			€ 27,000.00			€ 16,000.00
Total Team Size				20					
Total Remuneration				€ 61,000.00					
Infrastructure (monthly)									
Hot Desk in Coworking space				10	€ 250.00	€ 2,500.00			
Total Infrastructure				€ 2,500.00					

Assumptions:
App Complexity: Low
UI/UX level: MVP
Cross platform development not considered.
Each app platform will be hosted in same cloud infrastructure with different instances
Office Infrastructure will be in a shared working space and at a 50% capacity of total team size given that we will have a 50% work from home week policy.

Features and capabilities considered:
Email/Password sign in, Facebook Sign In, Google Sign In
User Profile, Ratings Reviews, Searching Display Map data,
Display custom Map data
Messaging, Social Sharing
Payment information collection
Usage analytics, Crash reporting,
Connect to one or more 3rd party services (APIs)SMS messaging
Two factor authentican

Tool references:
for app effort estimation - https://estimatemyapp.com/
for marketing effort estimation -
for Infrastructure effort estimation -
for Maintenance & support effort estimation -

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8.2.16. Financial Projections – Cost Estimate MVP Flutter

Activity / Resource	Website (Landing Page only)			Webapp, Android, iOS using Flutter		
	Effort (Man days)	Unit Rate (€)	Total	Effort (Man days) / Instances	Unit Rate (€)	Total
Development						
Designer (UI/UX) (5-7)	2	€ 400.00	€ 800.00	10	€ 400.00	€ 4,000.00
Developer	3	€ 400.00	€ 1,200.00	86	€ 400.00	€ 34,400.00
Total Development			€ 2,000.00			€ 38,400.00
QA & Testing						
Test Engineer				25	€ 250.00	€ 6,250.00
Total QA & Testing						€ 6,250.00
Miscellaneous Expenses						
Contingency Fund (10% of total budget)						€ 4,665.00
Total Miscellaneous						€ 4,665.00
Total Development (using Flutter)			€ 51,315.00			
Maintenance Activities						
Bug fixes and updates				8	€ 400.00	€ 3,200.00
Feature enhancements (design)				22	€ 400.00	€ 8,800.00
Total Maintenance						€ 12,000.00
Support Activities						
User support and troubleshooting				30	€ 300.00	€ 9,000.00
Total Support						€ 9,000.00
Total Maintenance & Support			€ 21,000.00			
Infrastructure Costs (annual)						
Server hosting renewal					€ 1,000.00	€ 1,000.00
Domain registration renewal					€ 20.00	€ 20.00
SSL certificate renewal					€ 150.00	€ 150.00
Payment Gateway Integration renewal					€ 500.00	€ 500.00
Software tools (PM tool, Testing tool etc.)					€ 700.00	€ 700.00
Laptops (as per Team size)				10	€ 850.00	€ 8,500.00
Total IT Infrastructure (One Time)			€ 8,500.00			
Total Maintenance & Support			€ 2,370.00			
Branding and Visual Identity (one time)						
Logo Design				20	€ 50.00	€ 1,000.00
Brand Style Guide				20	€ 50.00	€ 1,000.00
Total Branding						€ 2,000.00
App Store Optimization (ASO) /						
Search Engine Optimization (SEO) (one time)				20	€ 25.00	€ 500.00
Social Media Marketing (monthly)						
Content Creation				30	€ 50.00	€ 1,500.00
Paid Advertising Budget					€ 1,000.00	€ 1,000.00
Total Social Media						€ 2,500.00
Influencer Partnerships Fee (Per campaign)				2	€ 1,000.00	€ 2,000.00
Email Marketing Platform Subscriptio (annual)					€ 100.00	€ 100.00
Offline Marketing (monthly)						
Printed Materials (Flyers, Posters, etc.)					€ 500.00	€ 500.00
Event Sponsorships (Per event)				2	€ 1,000.00	€ 2,000.00
Total Offline Marketing						€ 2,500.00
Total Marketing			€ 9,600.00			
Development (Monthly)						
Designer (UI/UX)				1	€ 3,000.00	€ 3,000.00
Developer				3	€ 3,500.00	€ 10,500.00
Total Development (Per Platform)						€ 13,500.00
Total Development (Collective)			€ 13,500.00			
QA & Testing						
Test Engineer				1	€ 2,500.00	€ 2,500.00
Total QA & Testing (Per platform)						€ 2,500.00
Total QA Testing (Collective)			€ 2,500.00			
Marketing						
Content Creator & Designer				1	€ 2,500.00	€ 2,500.00
Social Media & Online Marketing Executive				1	€ 2,500.00	€ 2,500.00
Total Marketing			€ 5,000.00			
Management & Support						
Project Manager				1	€ 3,500.00	€ 3,500.00
Marketing Manager				1	€ 3,500.00	€ 3,500.00
HR & Customer Support				1	€ 2,500.00	€ 2,500.00
Total Management & Support (Collective)			€ 9,500.00			
Total (Per Platform)			€ 0.00			€ 21,000.00
Total Team Size			10			
Total Remuneration			€ 30,500.00			
Infrastructure (monthly)						
Hot Desk in Coworking space				5	€ 250.00	€ 1,250.00
Total Infrastructure			€ 1,250.00			

Asumptions:
App Complexity: Low
UI/UX level: Basic
Cross platform development considered (tool considered - Flutter)
Each app platform will be hosted on same cloud infrastructure with different instances
Office Infrastructure will be in a shared working space and at a 50% capacity of total team size given that we will have a 50% work from home week policy.

Features and capabilities considered:
Email/Password sign in, Facebook Sign In, Google Sign In
User Profile, Ratings Reviews, Searching Display Map data,
Display custom Map data
Messaging, Social Sharing
Payment information collection
Usage analytics, Crash reporting,
Connect to one or more 3rd party services (APIs)SMS messaging
Two factor authentican

Tool references:
for app effort estimation - https://estimatemyapp.com/
for marketing effort estimation -
for Infrastructure effort estimation -
for Maintenance & support effort estimation -