

Pets' Caregiver: A Platform for Pets' Diagnosis and Experience Sharing



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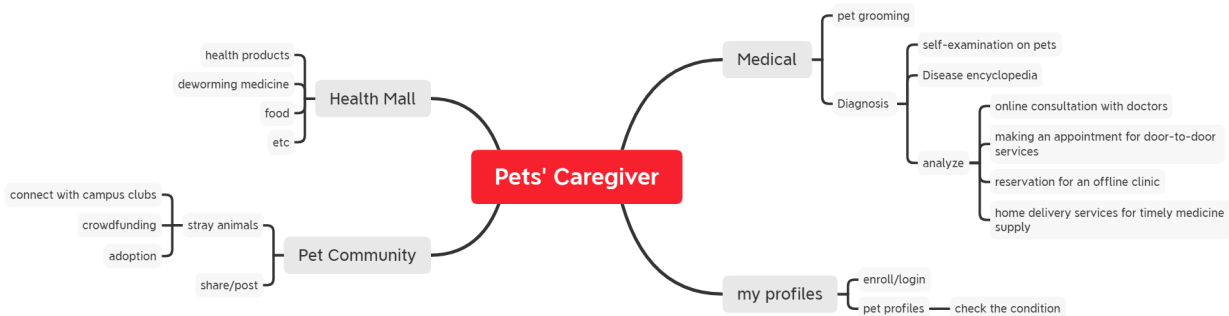
Main Goals

With the continuous improvement of the quality of life, more and more people begin to keep a pet. As the latest White Paper on China's Pet Industry indicates, the market size of pets has reached 206.5 billion in 2020. However, there's still no one app in the market that provides complete medical services for pet owners. Therefore, we want to design an app called Pets' Caregiver, thus:

- giving users a one-stop service for their pets.
- combine and apply the knowledge learned from the course *System Analysis and Design*
- develop good characters as a design architect.

Main Functionality And Characteristics

- Medical Services: we design to set *pet grooming* and *pet diagnosis* for medical purposes. In the latter part, we will provide multiple consulting methods, including self-examination on pets, online consultation with doctors, making an appointment for door-to-door services, and reservation for an offline clinic. We even plan to provide home delivery services for timely medicine supply.
- Pet Community: a platform for pet lovers to share their loving pets and experiences of raising them. Besides, considering the current situation that many universities have stray animals on the campus, we plan to set up an area especially for them, in which we will connect with relevant campus clubs, raise crowdfunding for stray animals, and offer adoption services.
- Health Mall: in the Health Mall, we will provide a list of recommended items for loving pets, like health products, deworming medicine, food, etc.
- Personalized Profile: In each account, we will provide a pet profile for its owner, through which the owner can get personalized notification about the character of his pet(e.g. health condition, the characteristics of the breed)



Intended User And Key Usability Goals

This application is designed for Pet owners. They can obtain integral services for their pets. In addition, those who don't own a pet can also get recommendations and see cute animals from the Pet Community.

However, the key usability goal in this app is to provide a full range of medical services for pets. This function is still very rare and of great value in the market.

Notes on Existing Similar Products

- So far there is no such comprehensive app that specifies in pet-care on the market, but there are some similar products with imperfect functions, some of which is listed here:
 - Pet Doctor (Shanghai PZP Network Technology Co., Ltd.): Provide online consultation for pet doctors, some basic knowledge related to pets, common parenting experience, etc.
 - Pet Market (Shanghai Hongge Network Technology Co., Ltd.): Take pet secured transactions as the core, and extend other services like pet supplies, pet insurance, etc.
 - Puppy At Home Pet Community (Puppy Home Information Technology Co., Ltd): Pet service community centered on pet foster care, beauty, and information sharing.
 - Compared with the above pet service apps, our products are more targeted, and also realize the function of "medical treatment" very comprehensively. There are both beauty and diagnosis&treatment, both self-examination and consultation, both online and offline. Also, community service is provided for users to share tips for keeping pets, such as superior pet products and a caring experience. And you can buy relevant essential items for pet raising through the mall.

Novelty and Enhancements

- Door-to-door drug delivery services based on online consultation.
- Pet files construction to facilitate backtracking.
- A pet community as a communication platform.
- A crowdfunding platform for pet medical expenses.
- Cooperate with some universities' clubs to help build an aid platform for stray animals on campus.
- Build a user platform. Pet owners can set up files for their pets, according to which the platform will provide services like case analysis, regular reminders, and so on.

Preliminary project planning

About Theoretical knowledge

Learn the concept of the project system before developing the software. Research the current needs and gaps of the pet medicine market. Analyze the advantages and disadvantages of some similar products currently existing, study the advantages, and improve the unfinished functions.

About Technology knowledge

Learn the basics of animal medical care. Learn knowledge about Java/C++/database to model system software and standardize software development process standards.

Engineering process and Methodologies

Profit model

- Ad-supported profit model;
- Service fee profit model(remuneration for labor, remuneration for platform doctors, consultation fees for users);
- The possibility of transaction fee profit model;

Operating model

Centered on animal diagnosis and treatment, we have created a platform dedicated to animal health services and extended a series of services: medical platform, health mall (cat food and dog food, helminthic, etc.), pet community (stray cats, stray dogs, relief and adoption, pet owner communication platform, etc.). And create personal space for users. The platform provides specialized services based on user input files, such as pet physical examinations, regular health reminders, and so on.

Collaboration platforms

- Cooperate with some school clubs to provide stray animals assistance services.
- Cooperate with professional pet medical institutions to provide professional knowledge resources, medical personnel resources, and medical drug resources.
- Cooperate with Animal Protection Society for advocacy work.

Potential for Further Development

- In the future, we will try to **get in touch with** local animal protection associations, consumer associations, and stray cat and dog societies on campus. This adds more public welfare attributes to our platform and can pool more strength to pay attention to the needs of pet owners for their pets' health.
- Add a **short video module** to our community. The short video is a very popular new media trend in today's era. It can intuitively and quickly spread information and attract users. Through this medium, pet owners can share their pet health tips, pet care skills, and even their mood at any time. At the same time, more people will pay more attention to animal health because of these videos shared on our platform.
- Expand more **pet safety and health** services, such as QR code collars to prevent pet loss, placement and comfort after pet death, and pet emergency rescue.
- Let the project gradually develop from the initial platform focusing on pet diagnosis and treatment to a platform **suitable for all owners and animal lovers** to communicate with each other, share happiness, and tackle problems.

Related Technologies

- Java: We take **Java** as the theme language of development, which is used to build the platform, make the official website, and do other related work.
- **Database system** technology: Manage community information with the database management system, create and save user information to facilitate administrators to maintain and manage the community.
- **Front-end development and mobile App development** technology: The basic requirement of our platform is multi-user to multi-terminal login, focusing on mobile devices. It needs to be able to support the needs of each user anytime and anywhere.

Project Challenges

- How to organically **connect** pet owners, professional pet clinics, pet shops, campus stray cat and dog societies, and other relevant organizations.
- Determine the system **boundary** and select the appropriate development **technology**.
- **Establish the trust** of the pet owners on the platform resources. This is a relatively long-term process, which requires patient publicity and meticulous work. At the same time, in the face of some contradictions of specific businesses, the platform should also have the corresponding reconciliation ability.
- To protect users' **data privacy**, we should reasonably plan the permissions for data viewing and use, and prevent malicious users from damaging the community environment after registering.

How This Project Can Help Our Own Professional Growth

Technology Knowledge Acquisition

- Object-Oriented Programming (OOP)
Design, analyze and implement projects with the thought of Classes&Objects as well as the interaction among certain classes.
- Platform and API Interface
Learn and choose the appropriate development platform and framework, to realize multi-platform co-management projects, e.g. between android and ios.
- Back-end Design
 - Select the appropriate database, store the information of users (as well as pets), market and community efficiently, safely, and firmly.
 - Configure the server, and deploy the database on the server, which is required to process various requests from users steadily.
 - Front-end and back-end interaction. Use multithreading to process various logic requests sent by users and then call the following database functions.
- Front-end Design
The flexibility of front-end interface, aesthetics of UI, etc.

Project Management Experience

- UML (United Modeling Language)
UML is the standard of the object-oriented modeling language, which can model almost any system with static structure and dynamic behavior. Its main function is to help users do object-oriented description and modelization by depicting the whole process of software from requirements analysis to software implementation and testing.
- Project Progress Management
Use Gantt Charts or PERT to trace the project progress.
 - Gantt Charts: It shows the internal relationship of project, progress, and other time-related system counterparts over time through **bar charts**.
 - Program Evaluation and Review Technique: PERT is a technology that uses network analysis to formulate plans and evaluate plans. It can **coordinate** the processes of the whole plan, reasonably **arrange** manpower, material, time and financial resources, and **accelerate** the completion of the plan.

Teamwork Ability

- Use **Git** version control technology, and utilize the git-based code hosting platform, to perform **project version management**, then enhance the teamwork ability and experience of members.

Self-learning Ability

- When doing project practice, it is inevitable to encounter different kinds of questions. Learning to find related materials and study new knowledge independently is an indispensable ability of every member in the project process.