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An Analytical Study of Factors Influencing the Interface Design of Pet Healthcare Applications

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Abstract- This study aims to explore the Factors Influencing the Interface Design of Pet Healthcare Applications. With the rapid growth of pet populations in Thailand, the demand for pet health services continues to rise. Pet health apps are no longer just basic services; they have become a key factor influencing pet health, extending lifespans, and enhancing family well-being. In China, pet health apps are experiencing rapid growth and gradual standardization, entering a critical transition from "information tools" to "Healthcare service platforms." The future competitiveness of these platforms depends not only on the number of features but also on their user experience and interactive interface capabilities. This transformation will place higher demands on pet health apps, making it an opportune time to study the factors influencing pet health app interface design. Pet health apps have become a crucial channel connecting pet owners and veterinarians. The user experience and interactive interface of pet health apps not only help improve the efficiency of Healthcare decision-making for both pet owners and veterinarians but also indirectly promote the standardization and scientific nature of pet health management. However, existing apps lack user experience and interactive interfaces. This study, targeting pet owners and veterinarians in Qingxiu District, Nanning, Guangxi, conducted a questionnaire survey and in-depth interviews, combined with a comparative study of Vetster, Dr.Tail, PetDesk, and Boqi App, to explore the strengths and weaknesses of pet health apps in terms of user experience and interactive interfaces. The research results show that the factors that users are most concerned about during use are the convenience of Healthcare treatment, the professionalism of doctors and emotional companionship, while the pain points are concentrated in complex operations, slow response from doctors and lack of emotional design.

Keywords: User Experience, Interactive interface, Pet Healthcare App.

I. INTRODUCTION

In recent years, the scale of China's pet market has continued to expand, and pet healthcare has become a key focus of industry development. Traditional offline healthcare treatment faces problems such as cumbersome appointments, long waiting times, and uneven distribution of healthcare resources, which has led to the emergence of pet healthcare apps. However, most current platforms still have defects in functional integration, interaction efficiency, and user trust building. This leads to the research question of this article:An Analytical Study of Factors Influencing the Interface Design of Pet Healthcare Applications.We use scientific research methods, review relevant research,case analysis, questionnaire survey and in-depth interviews, this study aims to deeply explore the factors affecting the design of pet healthcare application interfaces.

Research objectives:

(1) Sort out relevant research and summarize the literature that influences the interface design of pet healthcare apps.
(2) Analyze domestic and foreign cases and summarize the advantages and disadvantages of pet healthcare apps.
(3) Summarize user needs through questionnaire surveys and in-depth interviews.

II. METHODOLOGY

This study uses a combination of literature research, case analysis, and quantitative and qualitative research methods. By reviewing relevant literature on user experience, interactive interfaces, and pet health apps, the core content in this field was systematically sorted out, laying a solid theoretical foundation for this study; an in-depth analysis of typical pet health apps was conducted, and by analyzing successful pet health apps at home and abroad, their advantages and disadvantages were analyzed. This

method not only provides rich references for this study, but also provides strong support for subsequent design practice applications; through questionnaires and in-depth interviews, the user needs of pet owners and veterinarians were summarized, and ultimately the factors that users are most concerned about during use were determined. The main conceptual framework of this study is as follows:

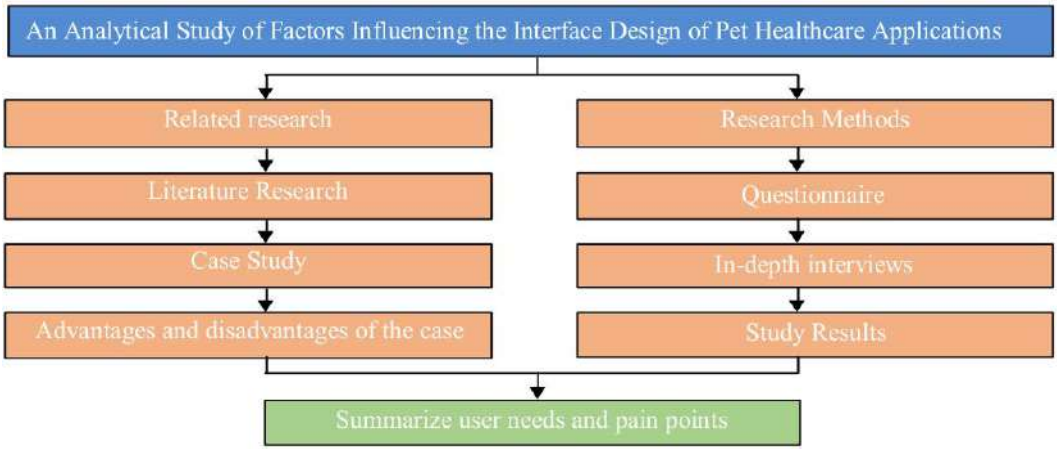


Figure 1: Conceptual Framework
Source: Author's drawing

2.1 Research methods

(1) Literature research method: By reviewing relevant literature on user experience, interactive interface and pet healthcare apps, the core of this field was systematically sorted out to lay a solid theoretical foundation for this study.
(2) Case analysis method: By analyzing multiple successful pet healthcare app cases at home and abroad, the advantages and disadvantages were analyzed, and experience and inspiration were learned.
(3) Questionnaire survey: The research subjects were pet owners in Qingxiu District, Nanning City, Guangxi. 110 questionnaires were distributed through the online questionnaire star, and 100 valid questionnaires were collected. The content covered basic information, frequency of app use, function preferences and satisfaction.
(4) In-depth interviews: This study conducted in-depth interviews with 10 respondents, including 5 veterinarians and 5 application designers. These samples represent key roles in the target group, complement each other in terms of healthcare expertise and interactive experience, and ensure the scientific nature of the research and data integrity.

III. RELATED RESEARCH

3.1 Literature Research

Existing research, such as Akchurin et al. (2023), conducted in Russia, indicates that pet owners' acceptance of telemedicine depends on ease of use and speed of doctor feedback, with complex interactions directly reducing usage. From a veterinary perspective, Fortin-Choquette et al. (2025) found that most veterinarians recognize the value of virtual consultations in improving access to healthcare, but at the same time, they worry that they will not completely replace in-person visits. Smith et al. (2022) further demonstrated that remote consultations can effectively alleviate the shortage of offline resources in the context of the COVID-19 pandemic, but their limitations lie in incomplete healthcare record management and inconsistent user experience. Therefore, researchers generally recommend adopting a hybrid model that combines online and offline services. Regarding user expectations, Fortin and Coe (2023) found that pet owners expect telemedicine apps to help them identify their healthcare routes, similar to a "map." Especially in emergencies, they prioritize quick responses and clear operational procedures. Ireifej et al. (2022) compared satisfaction with remote and in-person consultations and found that user satisfaction with remote treatment approaches that of in-person consultations if the app provides a smooth experience and transparent information. Regarding user experience and interaction design, Müller and Schneider (2025) reviewed the core requirements of pet healthcare mHealth apps, including case traceability, reminder mechanisms, and cross-device information synchronization, emphasizing the importance of simple information architecture and personalized push notifications for

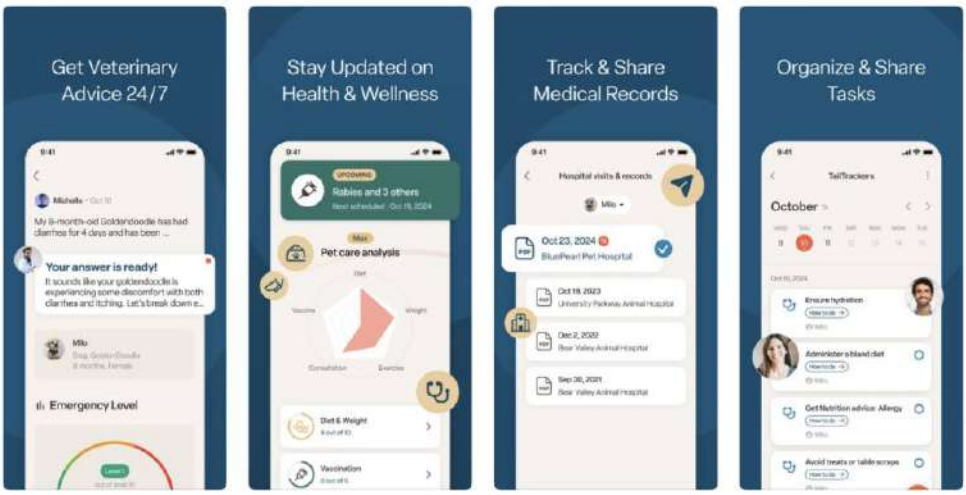
an enhanced experience. Furthermore, Majumder's (2025) research, from a universal perspective on mobile applications, noted that good user experience design can significantly improve user retention and conversion rates, providing methodological support for optimizing the interface and interaction of pet healthcare apps.

3.2 Domestic and foreign pet healthcare APP case analysis

(1) Vetster is a pet telemedicine app that connects pet owners with licensed veterinarians, supporting 24/7 online consultations, prescriptions, and health management. The platform offers transparent pricing, high-definition video communication, and convenient follow-up appointments, making it easier for users to care for their pets while providing veterinarians with flexible scheduling and access to remote diagnosis and treatment.

Picture1: Vetster App
Source: Vetster official website

(2) Dr.Tail is an AI-driven pet health management app that helps pet owners stay informed about their pets' health and significantly reduce unnecessary veterinary visits through personalized care plans, 24/7 intelligent consultation, centralized record management, and collaboration features.



Picture 2: Dr.Tail App
Source: Dr.Tail App Store

(3) PetDesk is a free pet health management app that allows pet owners to centrally manage health records, It was originally launched in the United States and is committed to connecting pet owners with local veterinary clinics through digital tools to achieve centralized management of pet health information, convenient appointment booking, and efficient healthcare communication remotely schedule appointments, medication reminders, and communicate more efficiently. It also helps veterinary clinics optimize operations and reduce the burden of phone and appointment management.

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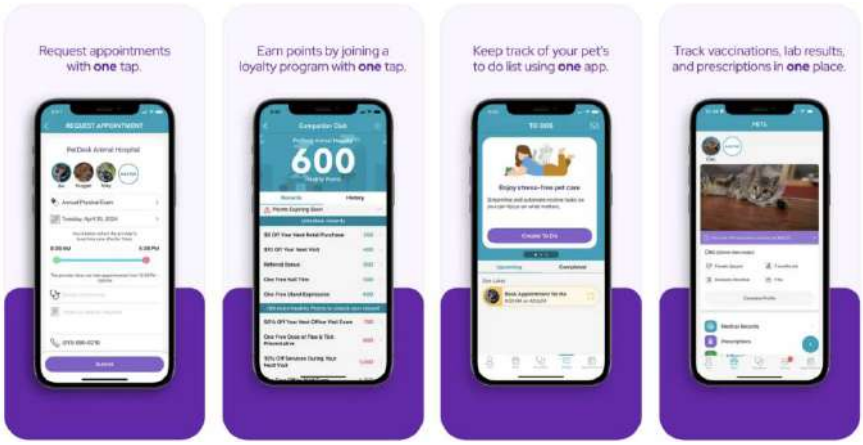

Picture 3: PetDesk App
Source: Dr.PetDesk App Store

(4) The Boqii Pet App is a mobile application launched by China's leading pet full-ecosystem service platform. It integrates a pet supplies mall, health Q&A, interactive community content and surrounding life services. It not only meets shopping needs, but also provides maintenance knowledge and community communication support.The platform is compatible with Android and iOS systems, and its users are spread across major cities across the country.

Picture 4: Poqi App
Source: Boqi Pets-Global Select Pet Products Mall

(5) This study analyzed existing local and global competitors, evaluated their unique features and application designs, analyzed their strengths and weaknesses, and drew lessons and inspiration. This laid the foundation for further research on how to find the most user-friendly solutions.

Features/Platform	Vetster	Dr.Tail	PetDesk	Boqi App
Appointment Booking	√	X	√	X
24/7 Availability	√	√	X	X
Online Consultation	√	√	√	√
Reminder & Notification	√	√	√	X
healthcare Records	√	√	√	X
Prescription Service	√	X	√	X
Loyalty & Rewards	X	X	√	√
Reviews	√	X	√	√
In-Home Visits	X	X	X	X
Emergency Support	X	X	X	X
Tracking	X	√	X	X

Beginners Guide	X	√	X	√
Appointment Booking	√	X	√	X
24/7 Availability	√	√	X	X
Online Consultation	√	√	X	√
Reminder & Notification	√	√	√	X
healthcare Records	√	√	√	X
Prescription Service	√	X	√	X
Loyalty & Rewards	X	X	√	√
Reviews	√	X	√	√
In-Home Visits	X	X	X	X
Emergency Support	X	X	X	X
Tracking	X	√	X	X
Beginners Guide	X	√	X	√

Figure 2: Summary of the main functions of pet healthcare apps
Source: Author's drawing

3.3 Case analysis of advantages and disadvantages

Vetster has a global presence, supports multiple languages, provides detailed healthcare information, is highly credible, and offers 24/7 online consultations. However, despite its high healthcare professionalism, the learning curve for first-time users is high, and some features require payment to unlock. Dr.Tail's free online consultations are highly attractive, with a simple registration and consultation process and user-friendly and easy-to-understand healthcare advice. However, its healthcare depth is limited, and it lacks professional case management and long-term tracking, and some professional information is not detailed enough. PetDesk is comprehensive, integrating appointments, reminders, healthcare records, and pet files, and is closely connected to offline pet hospitals. However, it is mainly aimed at the North American market, with limited functions available to Chinese users and a text-heavy interface. The Boqi App has rich localized content, combining pet communities, e-commerce, and pet encyclopedias, resulting in high user stickiness and convenient payment and logistics. However, its healthcare service segment is weaker than its e-commerce segment, and its healthcare professionalism needs to be improved.

IV. RESEARCH METHODS

4.1 Data Collection

(1) Questionnaire survey: This study used Qingxiu District, Nanning City, Guangxi as the pet owner group. These pet owners have both certain pet consumption capabilities and digital lifestyle habits. They have high requirements for the healthcare professionalism and interactive convenience of apps and tend to choose pet healthcare platforms that can provide emotional care. They are young white-collar workers, college students, newlyweds/young family users, middle-aged and elderly pet owners, etc. 110 questionnaires were distributed through the online questionnaire star, and 100 valid questionnaires were collected. The content covers basic information, app usage frequency, function preferences and satisfaction. Based on the collected data, SPSS software was used to perform reliability statistics, and the Cronbach reliability coefficient of this questionnaire was finally obtained to be higher than 0.7. This shows that the questionnaire has high reliability. In the data analysis part, this study uses descriptive statistics. For single-choice questions (gender, age, years of pet ownership, pet type, frequency of use, etc.), frequency analysis is performed using common percentages. The final score is calculated using the variable percentage (number of people in each category / total number of samples × 100%). For multiple-choice questions (common functions, reasons for choosing the APP, main pain points), frequency analysis is performed using variable percentages. The final score is calculated using the variable percentage (each variable option / total number of people in the question × 100%).

(2) In-depth interviews: The veterinarian group is a veterinarian with a practicing license in pet clinics or animal hospitals in Qingxiu District, Nanning City, some of whom have more than 5 years of clinical experience. The application designer group is an interaction designer and UI designer with more than 3 years of professional experience. Some of them have participated in the design projects of pet healthcare, health management or life service apps. The study explores their behavioral habits, pain points and

improvement needs during the use process. The samples are all key representative roles of the target group, which can complement each other in terms of healthcare professionalism and interactive experience, ensuring the scientificity and integrity of the research data. Semi-structured interviews were conducted across six key themes: user habits, professional evaluations, interactive experiences, emotional experiences, functional requirements, and design preferences. Each interview lasted approximately 45–60 minutes and was conducted online (via Tencent Meeting and WeChat voice chat). Data was recorded and transcribed throughout the interviews. Thematic analysis was then used to categorize the content and identify key insights and demand characteristics.

4.2 Results

(1) Questionnaire survey results: The user group is mainly female pet owners aged 26-35, with stable incomes, and their pets are mainly cats and small dogs. Online consultation and appointment registration are rigid needs, and there is room for improvement in functions such as vaccination reminders and healthcare record management. The demand for drug ordering is lower than that for healthcare consultation. Although Chinese style design is particularly suitable for differentiated positioning, the first preference is simple and modern, and there is a clear market; pain points and opportunities, complex interaction and slow response are the main pain points, and cultural and emotional design are insufficient, which is the future direction of differentiation and breakthrough. Nanning users have a certain degree of acceptance of Chinese style design, which can be combined with festival culture and blessing interaction; interface interaction needs to simplify the operation path and reduce the number of clicks. Pet themes can be integrated into festivals and cultural elements (such as sending health blessings during the Mid-Autumn Festival), and the doctor resource matching and response mechanism need to be optimized.

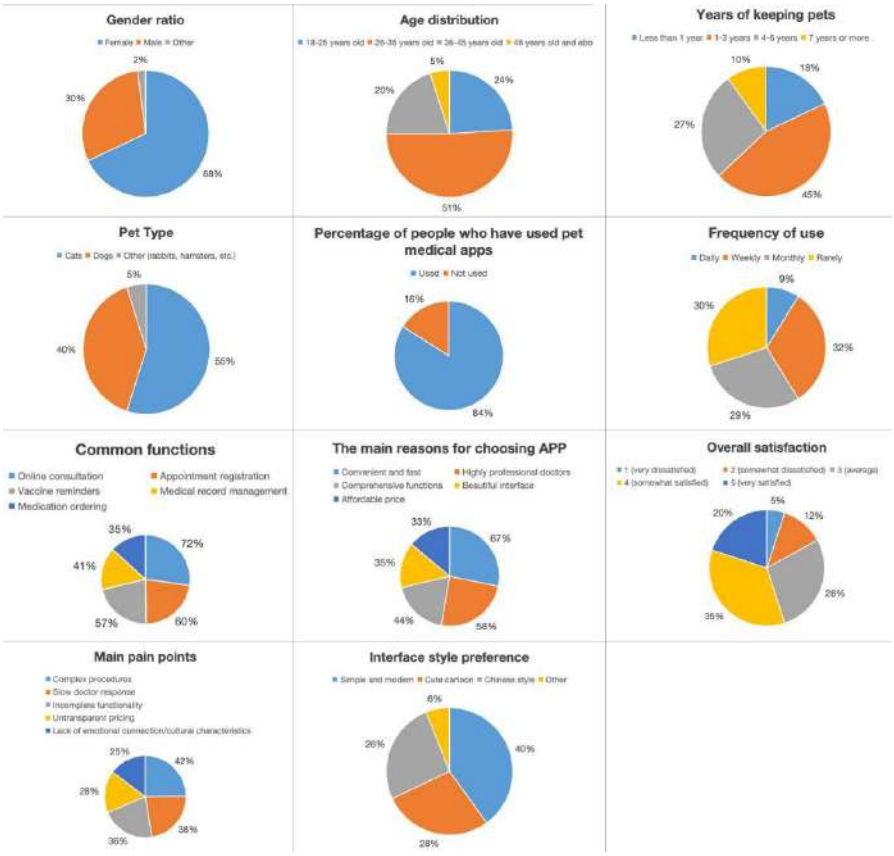

Figure 3: Questionnaire survey results
Source: Questionnaire statistics

(2) In-depth interview results: Veterinarians generally believe that pet healthcare apps have a positive role in basic consultation, vaccination reminders and healthcare record recording, and can help users discover problems in advance and reduce the pressure of offline healthcare treatment. However, they also emphasized that the current consultation function lacks depth, and some prescription information is

inconsistent with clinical practice, resulting in a lack of professionalism. Designers focused on user convenience, pointing out that the current app has too many steps in registration, appointment booking, and payment, which reduces user adoption. Veterinarians emphasized that user trust primarily relies on physician certification and platform transparency. Without authoritative endorsement, the value of the app's healthcare functions will be significantly reduced. Designers believe that visual and interactive design are equally important in fostering trust. Clear information architecture, warm colors, and approachable illustration styles can significantly enhance users' sense of security and trust. Veterinarians most sought to improve features such as drug prescription compliance, standardized healthcare record management, and the establishment of emergency assistance channels. They generally recommended integrating the app with offline pet hospitals to improve healthcare continuity. Designers also suggested strengthening personalized recommendations and emotional features, such as pet birthday reminders, health and growth records, and interactive holiday greetings, to enhance user stickiness. Both parties agreed that "functionality needs to be more user-friendly and professional." Veterinarians had no clear preference for visual style, but they required a simple and clear interface that highlighted healthcare information and physician qualifications, avoiding excessive entertainment. Designers, on the other hand, favored a combination of minimalist and modern styles with a warm and endearing touch, believing this visual strategy balances the seriousness of healthcare care with the emotional needs of users. Furthermore, some designers suggested incorporating local cultural elements (such as holiday themes and traditional Chinese illustrations) into the interface to enhance competitive differentiation.

V. CONCLUSION

(1) Pet owner: The core functions are online consultation/emergency consultation (online prescription or offline consultation), appointment registration (online appointment with a doctor or offline hospital), vaccine reminder, and healthcare record management. healthcare professionalism: hope to obtain authoritative, professional, and fast healthcare advice. Interactive convenience: simple operation path, efficient appointment and payment process. Transparency and trust: focus on doctor qualifications, fee transparency, and platform reputation. Emotional and cultural elements: expect to obtain a warm sense of companionship and holiday interaction.

(2) Veterinary: Efficient veterinary consultation requires reducing the burden of case records and information input. Career development: hope to accumulate word-of-mouth and expand influence through the platform. Income guarantee: care about the income sharing ratio and the number of consultations. Case management: need complete case records and follow-up reminders. Emotional communication: hope to provide interactive tools that help enhance user trust.

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