DESIGNING PET HEALTHCARE APP INTERFACES FOR THE CHINESE MARKET: A CASE STUDY OF THE "PET PEACE OF MIND" APP

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Abstract

This study aims to explore the design of pet healthcare app interfaces for the Chinese market: A case study of the "Pet Peace of Mind" app. The goal is to create an interactive digital media design for pet healthcare services on mobile devices for Chinese users.Through a research method combining case analysis, design practice, and prototype testing, this study systematically analyzed the strengths and weaknesses of existing pet healthcare apps. Furthermore, usability testing was conducted to collect user behavior and feedback data. The sample included 10 participants (5 pet owners and 5 veterinarians), and the test covered five core dimensions. Results showed that overall user satisfaction averaged 4.12/5, The overall satisfaction rate is 86%. The study found that simplified information architecture and intuitive navigation significantly improved operational efficiency and cognitive clarity, while emotional interaction and closed-loop service mechanisms enhanced user trust and stickiness. This paper not only provides localized design guidelines for pet healthcare app design but also offers empirical references and theoretical supplements for research in user interface (UI) and interaction design (IxD).

Keywords: User interface design,Interactive,User-friendly interface

Introduction

In recent years, the number of pet-owning households in Chinese cities has rapidly increased. According to statistics, the number of pets in Chinese cities and towns exceeded 120 million in 2023 (China Pet Industry Report, 2023). The increasing demand for pet healthcare has driven the digital development of pet healthcare services. However, current pet healthcare apps on the market generally suffer from overly layered information architectures, leading to lengthy user journeys through key operations. Doctors' responses are slow, and case management functions are incomplete, reducing user trust. In user experience design theory, Li et al. (2020) pointed out that streamlining the interaction process is key to improving the usability of healthcare apps.Furthermore, they lack emotional design, failing to meet pet owners' emotional needs to view their pets as family members. Therefore, exploring the practical implications of designing pet healthcare app interfaces for the Chinese market is highly relevant. This study focuses on the Chinese pet healthcare app market, analyzing successful cases both domestically and internationally., Taking the interactive interface design of the "Pet Peace of Mind" app as an example, using methods such as interface prototyping, interactive process design, and prototype testing, we propose interactive interface design optimization strategies aimed at enhancing the digital healthcare experience for pet owners and veterinarians and promoting the digital development of pet healthcare.Designing Pet Healthcare App Interfaces for the Chinese Market.

Research objectives

To create an interactive digital media design for pet healthcare services on mobile devices for users in China.

Scope of the Research

1.Population Scope

Pet owners (aged 18–50) and practicing veterinarians (aged 25–45) in Qingxiu District, Nanning, Guangxi.

2.Variable Scope

User experience dimension (operational efficiency, healthcare professionalism, emotional experience) and interaction design dimension (information architecture, interface navigation, functional closed loop).

Literature Review

Research over the past five years has systematically explored the user experience of healthcare and pet apps. Li et al. (2020) noted that streamlining the interaction process is key to improving the usability of healthcare apps; Zhang & Wang (2021) emphasized that in the Chinese context, users prefer platforms that combine healthcare expertise with a community-based experience. Foreign pet healthcare platforms have advantages in remote diagnosis and treatment, but lack localization (Kim & Park, 2021); while domestic apps focus more on community and e-commerce, but lack depth in their healthcare offerings (Chen, 2022). Existing research has focused less on how to balance healthcare expertise, interaction efficiency, and emotional design within the context of the Chinese market, which is the starting point of this article.This study is based on Garrett's (2011) "Elements of User Experience" model and Norman's (2013) "Emotional Design" theory. Garrett's five-layer model (strategy, scope, structure, framework, and presentation) guided the construction of the "Pet Peace of Mind" information architecture and interaction logic; Norman's emotional hierarchy (instinct, behavior, and reflection) provided a basis for the design of interface colors, icons, and emotional interactions. In addition, the study referenced the ISO 9241-210 (2019) human-computer interaction standard and Nielsen's (1994) heuristic principles to verify the usability and user satisfaction of the design. By visualizing the conceptual relationship between functional usability and emotional experience, this paper constructs an experience model with "functional efficiency—trust—emotional connection" as its core.

Research Methodology

1.Research Methodology

This study employed a mixed methods design. Case studies served as qualitative exploration, while prototype usability testing provided quantitative validation. Due to the small sample size (N=10), the study emphasized the principle of data saturation, meaning that feedback was considered sufficiently representative when it was repeatedly observed. Usability testing followed the ISO 9241-210 standard process, conducted in four phases: usability objectives, task definition, observation and recording, and interview feedback. Nielsen's heuristic evaluation criteria were also referenced to ensure the effectiveness and understandability of the interface interaction.

2.Research Steps

(1) Case Study: Analyze domestic and foreign pet Healthcare apps, Vetster, PetDesk, and Boqi App, summarize their advantages and disadvantages, and use these findings to guide design and development.

(2) Design Practice: Take the "Pet Peace of Mind" App as an example to conduct information architecture, interaction design, and visual design.

(3) Prototype Development: Build functional prototypes for pet owners and veterinarians, including appointment, consultation, case management and analysis, etc.

(4) Usability Testing: Invite 10 users to conduct usability testing and collect operation data and feedback. Five pet owners aged 18-50, including college students (aged 18-25), prefer online services, are familiar with digital tools, and understand the interaction pain points of younger users. Young professionals (aged 22-35) are the core user group, seeking efficiency and convenience, representing mainstream demand. Newlyweds/young families (aged 26-40) prioritize pet health management and long-term user experience. Middle-aged and older pet owners (aged 40 and above) place high demands on interface simplicity and ease of use, thus requiring usability verification. Five veterinarians aged 25-45, including practicing veterinarians at pet clinics (aged 25-45), tested the efficiency of online consultation, case management, and prescription functions. Assistants/interns at pet Healthcare institutions found areas with high operational burdens during use.

3.Data Collection

3.1Case Study

Through a systematic analysis of Vetster (Canada), PetDesk (USA), and the Boqi App (China), this study examines their respective strengths and weaknesses in functional positioning, information architecture, and interactive experience. These differentiated features provide guidance for the design and development of the "Pet Peace of Mind" app, focusing on localization, structure, and emotional engagement. This comparative analysis identifies design strengths and weaknesses, extracts reusable lessons, and translates them into design specifications and development strategies tailored to the Chinese market.

3.2 Usability testing

Testing was conducted with five users each on the pet owner and veterinary platforms, focusing on five key areas: ① consistency between design style and content; ② rationality of functional structure; ③ interaction flow; ④ user-defined user behaviors; and ⑤ user-friendliness of the user interface and interaction design. Testing was conducted both in the lab and in real-world scenarios. The lab testing focused on controllability and operational recording, while the real-world testing focused on user behavior in natural environments.

4.Data Analysis

This research used Likert scale data, a categorical type of quantitative data, with a five-point scale ranging from "very dissatisfied to very satisfied." We conducted descriptive statistical analysis of the test results. The analysis used frequency statistics, counting the number of people who responded to each rating.

Research Results

1.Case Study Results

(1) Vetster offers strong Healthcare expertise and a comprehensive physician certification system, but its operational processes are complex, its interface is complex, and it lacks emotional design. By drawing inspiration from its physician qualification review and prescription management systems, we are strengthening Healthcare credibility and safety

assurance within "Pet Peace of Mind." We are also simplifying the information hierarchy and adopting a "narrow and shallow" architecture to improve operational efficiency.

(2) PetDesk focuses on appointment reminders and case management, offering clear interactions, but lacks localization and a weak user connection. We are integrating the logic of its reminder and task management system to add health management features such as vaccination and medication reminders. We are also incorporating Chinese cultural elements into the interface and language to enhance user friendliness.

(3) The Boqi app offers comprehensive functionality and strong community interaction, but its Healthcare service module is weak, with fragmented entry points and complex interactions. By learning from its community-based operations and emotional communication model, we are introducing features such as holiday greetings, pet birthday reminders, and interactive messaging within "Pet Peace of Mind." We are also deemphasizing the shopping component and focusing on the primary Healthcare focus.

2.Design strategy practice case

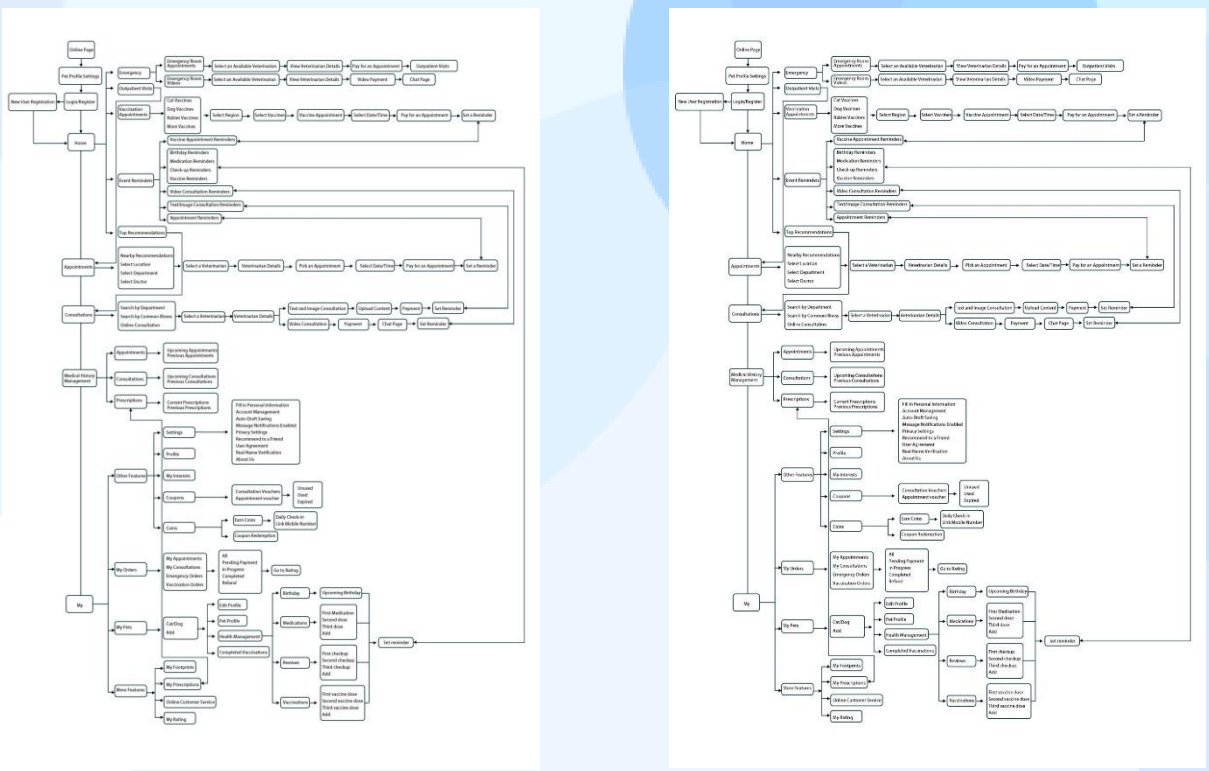

Figure 1 .Flowchart for pet owners and veterinarians
Source: Author's drawing

The "Pet Peace of Mind" app is designed for both pet owners and veterinarians, with the overall goal of simplifying operations, improving treatment efficiency, and incorporating warm care. The pet owner's app features five core entry points: Home, Appointments, Consultations, Case Management, and My Account. The veterinarian's app features Home, Appointments, Consultations, Analysis, and My Account, highlighting high-frequency functions and minimizing hierarchy. Flowcharts are used to streamline processes and identify

and optimize redundant links. Prototypes are used through low- and high-fidelity testing to help the team and users validate interaction rationality in advance, as shown in Figure 1.

(1) Visual design

Icon: The startup icon combines a paw print, a heart shape, and a healthcare cross, conveying the message of "professional healthcare care, safe companionship"; the interface icons adopt a flat, rounded-corner design, balancing professionalism and friendliness.

Color: Green is the main color, with blue and orange as supplementary colors, and the background is light gray and white, reflecting health, safety, and vitality.

Font: Apple Square and DIN sans serif fonts are used, with clear font size layering to ensure comfortable reading and unified interface.

(2) Functional design

Guide page: The pet owner's end emphasizes warm companionship and convenient healthcare care, while the veterinary end emphasizes professional qualifications and career growth.

Registration and login: Pet owners need to fill in their pet's information, and veterinarians need to upload their professional qualifications.

Homepage: The pet owner's end focuses on providing emergency healthcare treatment, outpatient appointments, and vaccine appointments; the veterinary end displays today's tasks, schedules, and evaluations.

Appointment page: The pet owner's end supports nearby recommendations and accurate selections, while the veterinary end provides automatic reminders and case previews.

Consultation page: Supports graphic/video consultations and electronic prescriptions; doctors can retrieve historical cases. healthcare record management/analysis page: The pet owner's side facilitates health record tracking, while the veterinarian's side provides visual analysis of income and healthcare treatment data.

My page: A personalized management center. The pet owner's side focuses on pet health management, while the veterinarian's side emphasizes income and service management.

Default page: Warm illustrations and prompts guide the next step.

(3) Experience layer design

The pet owner's side focuses on security and emotional companionship: qualification certification, transparent fees, birthday and holiday reminders.

The veterinarian's side emphasizes efficient diagnosis and treatment and professional value: case management, transparent income, evaluation and reputation accumulation.

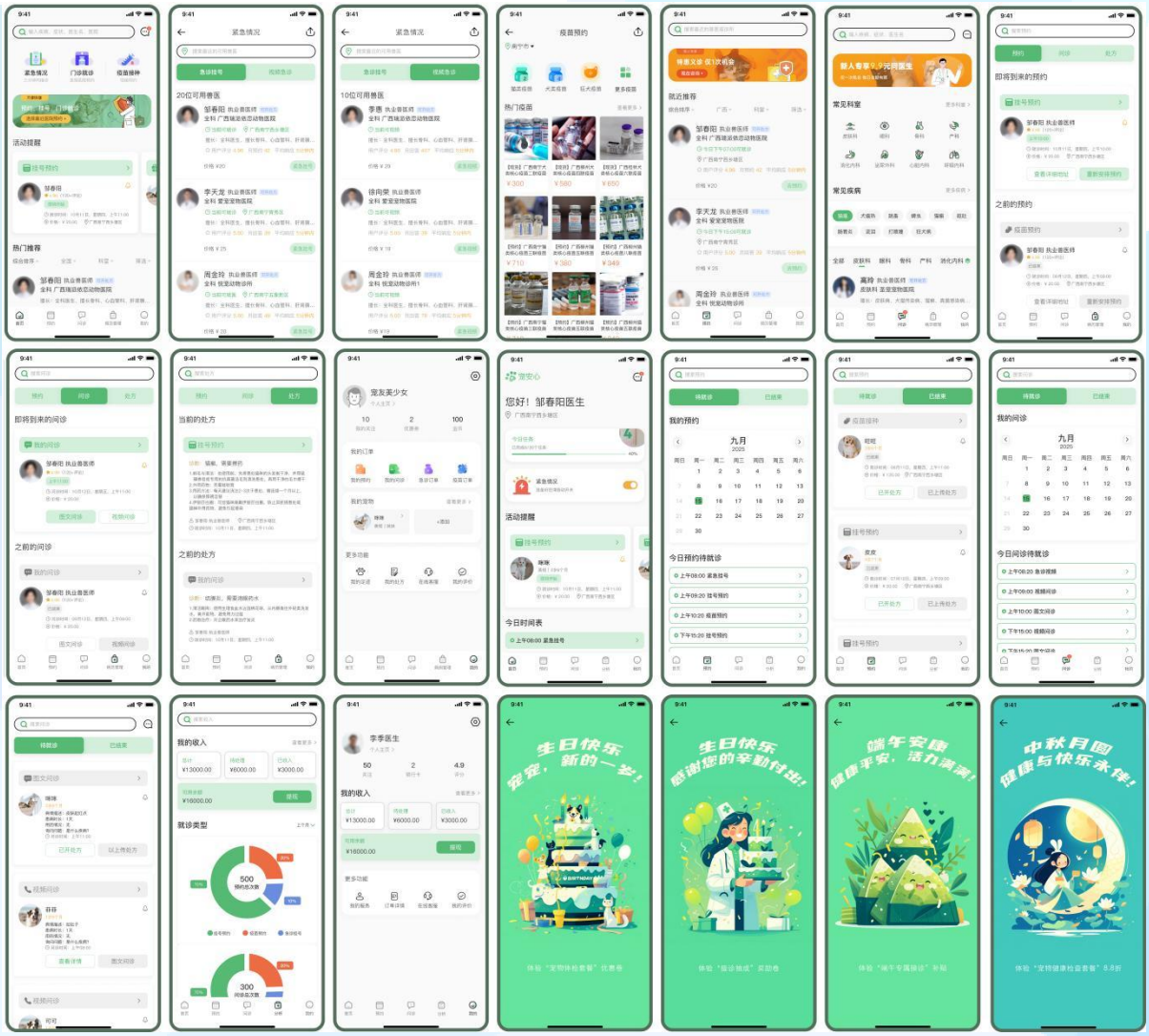

Figure 2 ."Pet Peace of Mind" App
Source: Author's drawing

3.Usage data for each screen in the "Pet Peace of Mind" app

(1) Pet main app screen usage data:

Table 1. Pet main app screen usage data

Functional categories	Test tasks	Average operation time (seconds)	Completion Rate (%)	Key Feedback
Appointment process	Search for a doctor, select a time, and complete an appointment.	62	100	Operation was smooth, and the reservation confirmation prompt was clear.

Functional categories	Test tasks	Average operation time (seconds)	Completion Rate (%)	Key Feedback
Consultation process	Consult with pictures, text, or video.	85	90	Videos loaded slightly slowly, and the confirmation interface was a bit complex.
Case management	View past consultations and prescriptions.	58	100	Information was clearly categorized, but the font size was slightly small.
My page	Edit personal information and manage pet profiles.	74	90	Some users had trouble finding the editing interface.
Emotional experience interaction	Holiday reminders and pet birthday notifications.	40	100	Users generally found the design warm and thoughtful.

Source: Author's drawing

(2) Veterinary app screen usage data:

Table 2. Veterinary app screen usage data

Functional categories	Test Tasks	Average operation time (seconds)	Completion Rate (%)	Key Feedback
Appointment management process	View today's appointments and modify them	55	100	Easy to use, effective reminder mechanism;
Consultation process	Receive text/video consultations and prescriptions	92	90	Prescription input is a bit cumbersome, and voice templates are recommended;
Case review page	View pet basic information and Healthcare records	65	100	Images and text are clear and detailed;
Revenue analysis page	View revenue statistics and commission data	48	100	Data is intuitive, but export functionality is recommended;
My page	Update profile and manage service information	70	90	Some button labels are not intuitive enough.

Source:Author's drawing

4.Usability testing and evaluation of the "Pet Peace of Mind" APP interface design

The following is the tester's feedback on product satisfaction. Satisfaction is categorized into five levels, from low to high:Very dissatisfied, dissatisfied, average, somewhat satisfied, and very satisfied.

Table3.“Pet Peace of Mind” App Usability testing

Test content	Very dissatisfied	Dissatisfied	generally	relatively satisfied	Very satisfied
Design style matches content			1	6	3
Rationality of functional structure			2	5	3
Interaction Fluency			1	6	3
Compliance with operating habits			1	7	2
Emotional experience			2	6	2

Source: Author's drawing

As shown in Table3.Regarding the "design style and content match" rating, 6 users chose "relatively satisfied," 3 chose "very satisfied," and only 1 rated it "average." This indicates that the overall interface style is relatively consistent with the app's positioning, and users can perceive a good fit between the design and the Healthcare content. However, a small number of users still felt that the visual or content fit was insufficient. Regarding the "functional structure rationality" rating, the majority (5 users) rated it "relatively satisfied," 3 chose "very satisfied," and 2 rated it "average." This indicates that the functional hierarchy is generally reasonable, but some users may encounter fragmented access points or unclear logic during use. Therefore, the information architecture should be further simplified to highlight high-frequency functions. Regarding the "interaction fluency" rating, 6 users chose "relatively satisfied," 3 chose "very satisfied," and 1 rated it "average." While the majority of users appreciated the smoothness of the interactive experience, some users still noted lags or redundant steps, suggesting that further optimization of response speed and interaction paths is needed. The results for "Operational Habit Conformity" show that this category received the highest percentage of "relatively satisfied" responses (7 people), with another 2 people being "very satisfied" and only 1 person being "average." This indicates that the overall operational design aligns with the usage habits of most users, and the interface logic is similar to the typical app experience, resulting in a low learning curve. However, attention should still be paid to potential barriers for a small number of users, such as middle-aged and elderly users who may be unfamiliar with the operational path. The results for "Emotional Experience of Interface Design" show that 2 people chose "average," 6 people were "relatively satisfied," and 2 people were "very satisfied." This shows that while design elements such as layout, color, icons, illustrations, and interactive elements like event reminders enhance the user experience and provide a relatively satisfying emotional experience, they are still insufficient to meet all user needs, and further enhancements to holiday greetings and personalized design are needed.

Table 4. Satisfaction with test content

Test Content	Average satisfaction rate	Satisfaction percentage
Design style matches content	4.2	90%
Functional structure rationality	4.1	80%
Interaction smoothness	4.2	90%
Conformity to operating habits	4.1	90%
Emotional experience	4.0	80%

Source: Author's drawing

Table 5. Overall satisfaction

Project	numerical values
Overall Average Satisfaction	4.12
Overall Satisfaction Percentage	86%

Source: Author's drawing

These data indicate that most of the test content received high satisfaction ratings, especially in areas such as "design style matches content," "smooth interaction," and "conforms to user habits," where user feedback was positive, with satisfaction rates exceeding 80%. The graphical results clearly reflect the validation of qualitative design insights by quantitative data: users operate faster and are more satisfied with simplified architecture and emotional design.

Discussion

Research indicates that the interactive optimization of the "Pet Peace of Mind" App effectively balances healthcare professionalism and emotional experience. Theoretically, this study empirically validates the Garrett model and Norman's affective design theory, verifying the synergistic effect between functional efficiency and emotional experience. Practically, it provides an actionable UI/UX design framework for the digitalization of pet healthcare services in China. In the future, the research results can be extended to the design of cross-cultural healthcare applications, providing a reference for interface localization and trust mechanism construction for international digital healthcare platforms.

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