

Design and Research of Pet Burial System Based on Emotional Service Design Theory

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Abstract:

By investigating the emotional needs of users and analyzing their behaviors, a new pet funeral service solution was proposed. Questionnaire analysis was used to investigate the pet-fed population. After discovering that a pet has passed away, pet parents generally adopt the treatment method of burying the remains, which cannot fully express the emotional depth between the pet parent and the pet. The state has enacted relevant laws and regulations for the handling of animal carcasses, but many pet parents still bury their pet bodies without authorization to cause environmental pollution. According to the user's emotional needs and the relevant laws and regulations of animal carcass treatment, the design of related products can be carried out in combination with bionic design and emotional design, thereby realizing the user's emotional sustenance and solving a series of social problems arising therefrom.

Keywords:

Pet, Emotional, Harmless Treatment, Product Design, Funeral Service

1. Introduction

In China, the demand for pet feeding is growing. According to the data report of the Speedway Research Institute and the China Business Research Institute (see Figure 1 and Figure 2), the number of pets in China in 2008 was 30 million. As of 2012, the rapid growth rate reached 130 million, with a growth rate of 323.3%; in 2015, it reached 180 million. The growth rate was 41.7%; in 2017, it reached 250 million, with a growth rate of 40.6% [1]. The number of pets will continue to rise in the futures.

Under such a huge number, how to deal with pet corpses is a social problem. The emerging industry of pet burial services came into being, and pet burial services were also needed by more and more people.

As early as 1896, American Samuel Johnson proposed the concept of building a cemetery for pets, which is also the prototype of the world's first pet cemetery [2]. In Japan, where pet funeral industry is particularly developed, pets are a member of the Japanese family. When their lives come to an end, the Japanese will hold a simplified version of their funeral: prepare special coffins, urns, and Place a spirit card at home,

ask the monks in the nearby temples to do things for them, and commemorate your pets all the time.

Changes in the number of pets in china

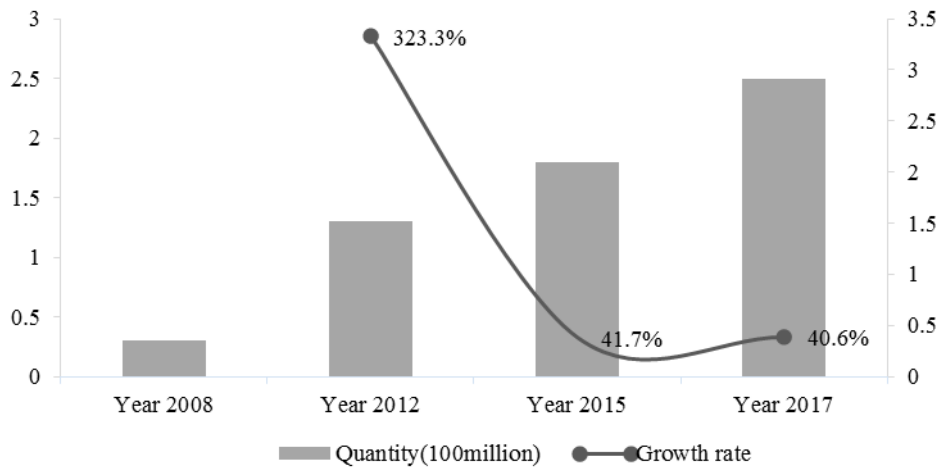


Figure 1. Changes in the number of pets in China.

(Source: Speedway Research Institute, China Business Research Institute)

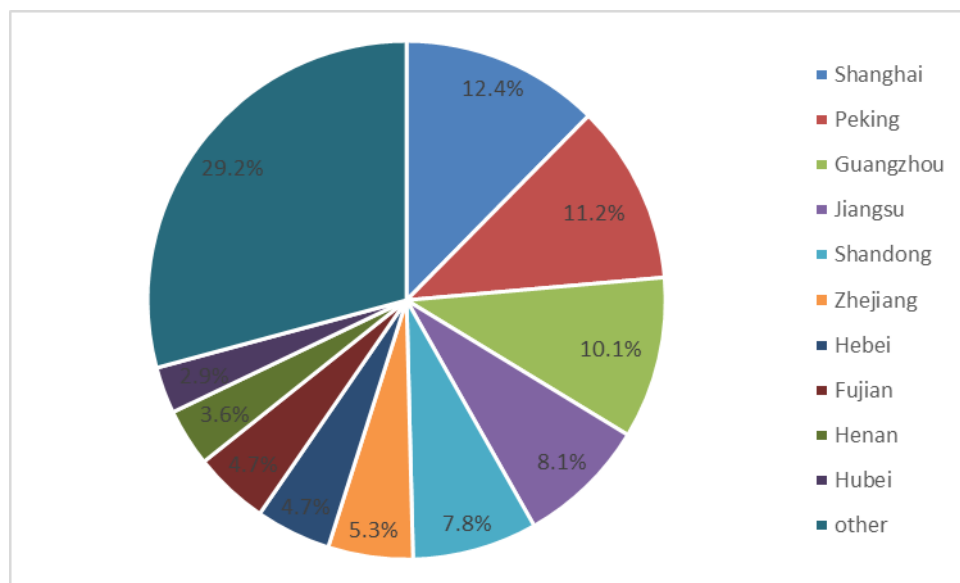


Figure 2. In 2016, the pet owners were mainly distributed in economically developed areas.

(Source: public information, Zhiyan consulting)

The number of pets in China will increase significantly in the future, but there are many problems in China's pet funeral services [3]. The pet funeral service involves many departments such as the Civil Affairs Bureau Funeral Management Office, the Agriculture and Forestry Bureau Epidemic Prevention Department, the Urban Management Department, and the Ministry of Health. There are no relevant laws and regulations to restrict the pet funeral service company [4]. The state has very strict control over the review and approval of cemetery land and has not yet approved the land used for the construction of pet cemeteries [4]. The treatment of pet remains is generally carried out by private burial or discarding at will, leading to the spread of disease and the spread of plague, causing great harm and adverse effects on society

and the environment[5]. Environmental protection and humane improvement of the way in which pets are treated and the service mode of pets are an important part of solving social unrest.

Based on the emotional service design, this project optimizes the pet funeral service process, realizes the harmless treatment of pet remains with related products, and expresses the “continuation of life” through the way of plant growth to realize the spiritual sustenance of pet owners.

2. User Survey and Analysis in Pet Funeral System

The current emotional burial service is very necessary. Emotional design is a creative tool for the purpose of expressing and implementing the designer's ideas and designs [6]. In this design, if you want to design based on emotionality, you must fully consider the needs of the target group [7]. This topic relates pets to plants, green plants represent newborns, and the death of pets has a certain relationship with the growth of plants, and the growth of pets is achieved by the absorption of nutrients from pets.

Service design is an effective way to plan and organize the relevant factors such as people, infrastructure, communication and materials mentioned in a service to improve the user experience and overall service quality. The goal of service design is to design a range of services that are easy to use, satisfying, reliable, and efficient. Designing only pet funeral related products is too one-sided. If you can put the product into the funeral service system, and then optimize the use of the product through the whole system and change the processing status of the pet's remains, you can provide users with a global service. At the same time, add emotional factors to guide users to use the product to achieve the best results [8].

Understand the user's needs and potential pain points, in order to carry out a series of analysis and research in a targeted manner, and finally complete the design [9]. In order to quickly grasp a certain number of user experiences, needs and potential pain points in a short period of time, this topic uses the questionnaire survey method for data statistics and analysis.

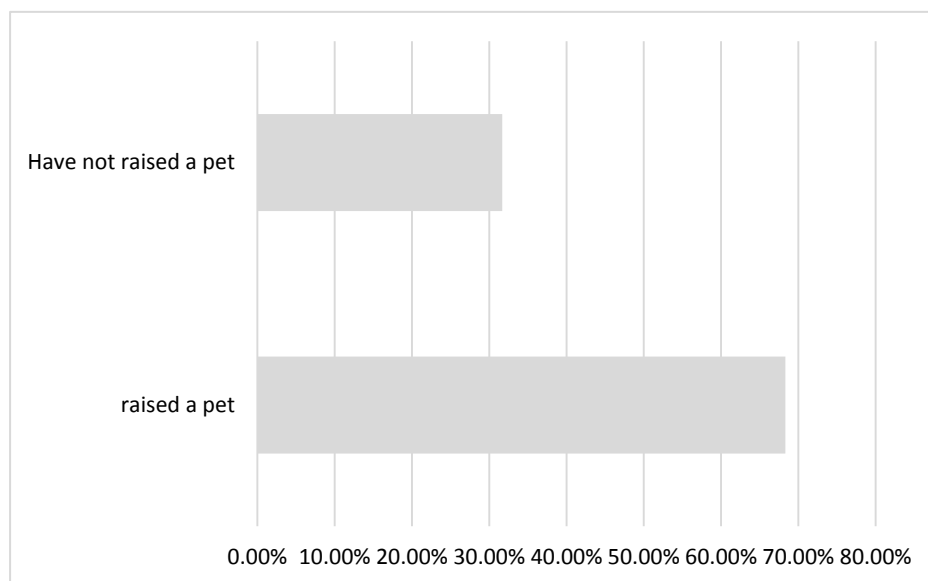


Table 1. 101 Individuals feeding pets.

The subject of the survey is positioned as a pet favorite. It can be seen from Table 1 that the proportion of pets raised is 68.32%.

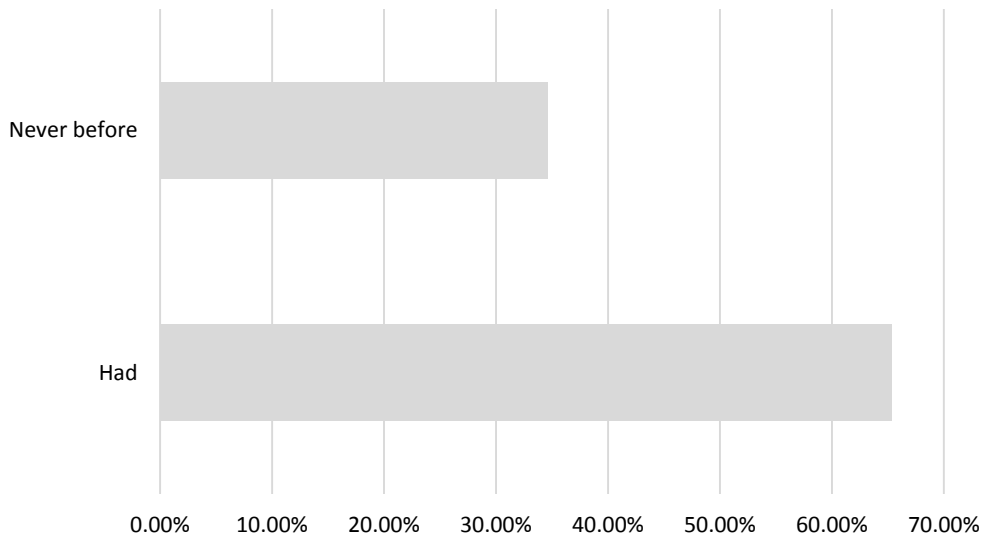


Table 2. Have you ever experienced a pet death?[w2]

As can be seen from Table 2, the proportion of people who have experienced or experienced pet deaths is 65.35%. Among them, the proportion of dogs fed is significantly higher than that of other pets, indicating that among the people who feed pets, the number of dogs is the largest, and most of them prefer small dogs. Secondly, the relatively large number is the cat raising group. Through survey data analysis, when considering funeral products and systems, we can focus on the needs of pet parents who feed dogs and cats. They also need a pet funeral service system more urgently.

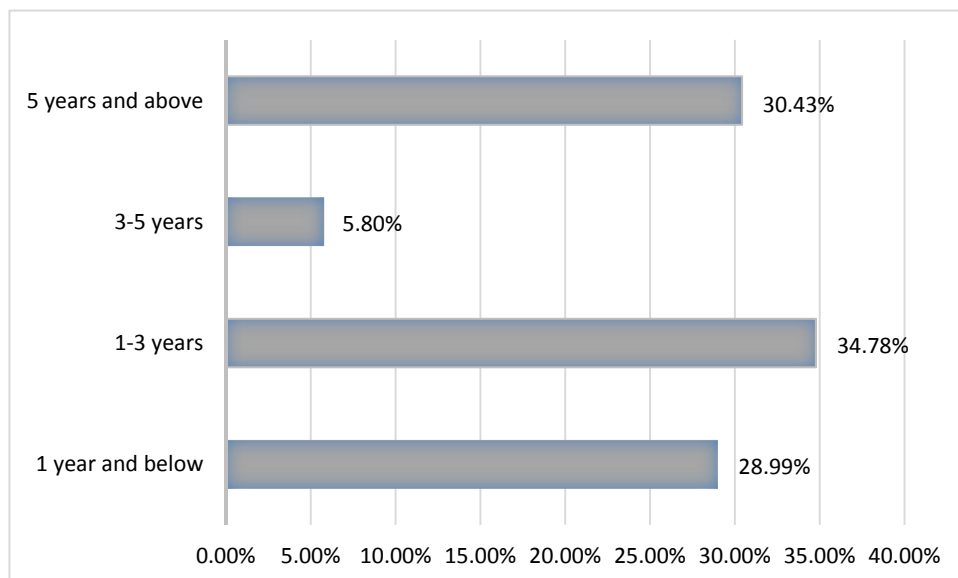


Table 3. 69 Time for individuals to feed pets [w3].

As can be seen from Table 3, among the 69 people who have fed pets, the proportion of people who have been feeding pets is more than one year accounts for more than 50%. Through questionnaire analysis, it can be seen that the parents' feelings about pets generally become deeper with the increase of feeding time. The

pet's behind-the-scenes are valued by the pet lovers, but there is no product or system that can balance emotion and reality [10]. Therefore, it is necessary to solve a social problem such as the treatment of pet remains, and the emotional funeral service has become more and more important.

3. Emotional Pet Funeral Service Product System Design

3.1. Design Elements

According to the survey, the current pet funeral service is not very sound. The main reason is that the pet funeral service on the market is expensive and not humanized. The existing pet funeral service process is almost the same as the human funeral service process. Pet parents don't have more time to go through a complete service process, and some pets' deaths are sudden, time and place are problems, and existing pet funeral services require a fixed location for pet parents to find their own services. It is very inconvenient to bring your pet's body to the service location.

Combining these two elements, there is currently a lack of a set of emotional pet funeral services that are reasonably priced and convenient for pet parents. According to the conclusions drawn from the questionnaire survey and data analysis, among the two options of burying and cremation, the burial method is adopted to deal with the pet remains [11]. On the basis of respecting the pet's parents' wishes and burying pets, this topic integrates the concept of life continuation into the product and designs a "small coffin" that can be placed on the pet's emotional carrier. For pet parents who choose to use the cremation method, you can design a "small flower pot" that can connect and extend the pet ashes to life and play a greater role and value.

3.2. Functional Structure Scope Determination

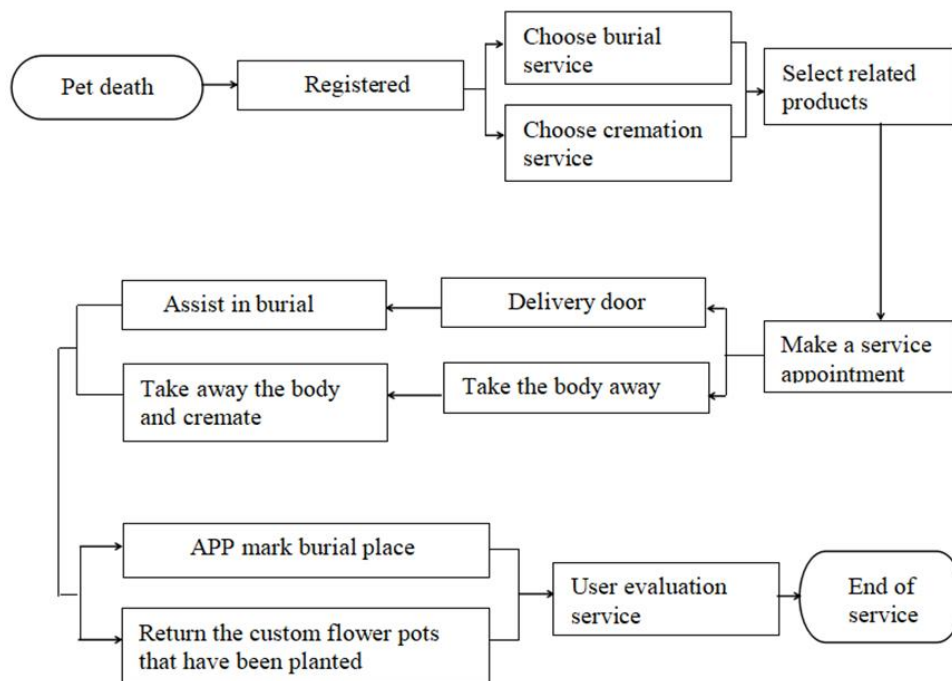


Figure 3. Service Process.

In terms of service prices, the products "small coffins" provided in the burial service and the "small flower pots" provided in the cremation service are made of

recycled paper, which is environmentally friendly and low in cost, and the overall service price will be reduced accordingly. For the time aspect, learn from the popular city delivery service and add some services: For the pet parents who choose to bury the pet remains, the delivery staff will deliver the relevant products to the door, and the pet parents will choose whether they need the delivery staff to assist the burial of the pet; Parents of pets who choose to cremate pet remains are picked up by the delivery staff and, after the cremation of the pet remains, the ashes are mixed with the soil to make nutritious soil, and the plants are planted in custom pots and returned to the pet owner (see Figure 3).

3.3. APP Operation Process

Since the entire service process is completed through the APP, the operation process of roughly combing the APP is as follows:

- (1) Open and register the APP
- (2) After filling in the relevant information, select the service that needs to be reserved.
- (3) Select the relevant products needed for the service and some additional optional products
- (4) Confirm reservation service
- (5) Waiting for relevant personnel to provide services at home
- (6) After the service is over, feedback can be made on the APP.

3.4. Physical Product Design

At present, in the pet funeral market, the target group is mostly the parents of pets in the city. The urban residents treat pets mainly with “pet”. Pet funeral is more easily accepted by urban residents as an emerging industry.

Nowadays, China strongly advocates environmental protection, and “sustainable design” has become a mainstream design. Therefore, we can combine “sustainable design” with emotional design, deepen them as product innovations to design products that truly serve users from a user perspective.

Sustainable design is to minimize the environmental pollution of the product during production and use, so the material is chosen as recycled paper. Recycled paper will not add any bleaching agent and whitening ingredients in the production process. The color of the recycled paper is basically the original color of the paper. This appearance gives people a feeling of being more environmentally friendly, more secure, and more in line with the mainstream design trend of “sustainable design”.

In order to prevent the spread of bacteria in the pet's body, a nanofiber filter paper can be used to isolate the bacteria. The paper is attached to the inner wall of the "small coffin" to isolate the virus and bacteria and to degrade through the remains. Bacteria and viruses lose their parasitic environment and die, eventually preventing the spread of the virus [12].

The abstractions of the shape of the “small coffin” into the form of the seed means that the pet’s “regeneration” meets the pet’s emotional appeal to the pet's thoughts. Let pet parents convert the idea of “buried pets” into “planting” pets into the land, which is equivalent to a large seed buried in the soil and eventually growing out of

plants. The green fixed rope on the outer wall of the "small coffin" is like the sprout of the seed, which symbolizes tenacious vitality (As shown in Figure 7, Figure 8, Figure 9 and Figure 10).

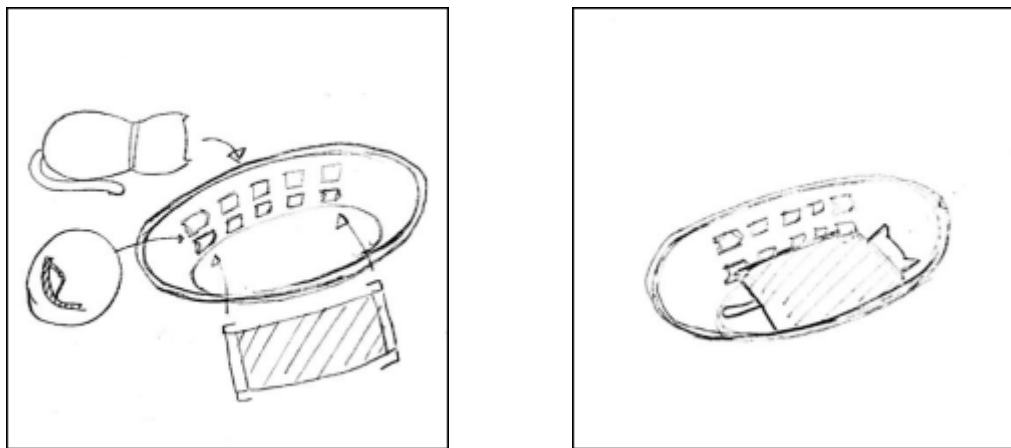


Figure 4. Concept sketch.

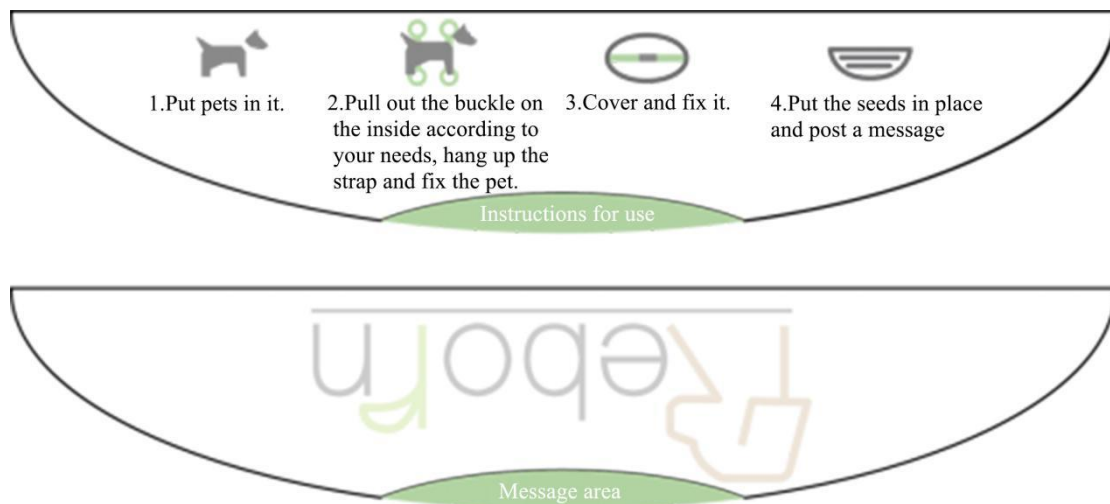


Figure 5. Product external guide sticker.

As shown in Figure 4, in order to better comfort the pet's parents' emotions and place the pet's remains, a fixed strap for fixing the pet's body is placed inside the "small coffin", and a small quilt is attached in the middle, and the ends of the strap are tied with "small coffin". The connected part is a two-layer paper structure that can be opened and closed. When in use, the paper structure is pulled out and arched, and the hooks on both sides of the fixing belt are hung, and the small quilt connected between the two fixing belts can cover and fix the pet body.

In order to meet the pet's parents' emotional appeal, there are two stickers on the outside of the "small coffin", which are "sentence paper" and "product use guidelines" (shown in Figure 5). You can write down the pet with "sentence paper". the words said. Below the message paper there is a groove in which the plant seeds can be placed. The "Product Usage Guidelines" are used to inform the pet owner of how to use the product.

The "small flower pot" uses a similar shape element as the "small coffin", like a half cut seed.

The logo is “Reborn”, meaning “regeneration”, the plant grows through the nutrients provided by the pet's remains, and the growth of the plant symbolizes the “regeneration” of the pet. The “R” in “Reborn” adopts the shape of a dog, which symbolizes pets, while the “r” adopts the shape of a small bud, symbolizing plants, meaning that the pet is once again accompanied by the owner by means of “avatar” as a plant. To meet the emotional needs of the owner for the pet's thoughts. (As shown in Figure 6)



Figure 6. Logo design.



Figure 7. Product overall shape (top view).

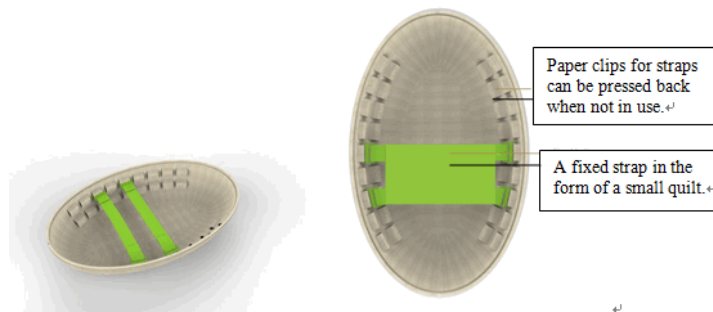


Figure 8. Internal structure of the product

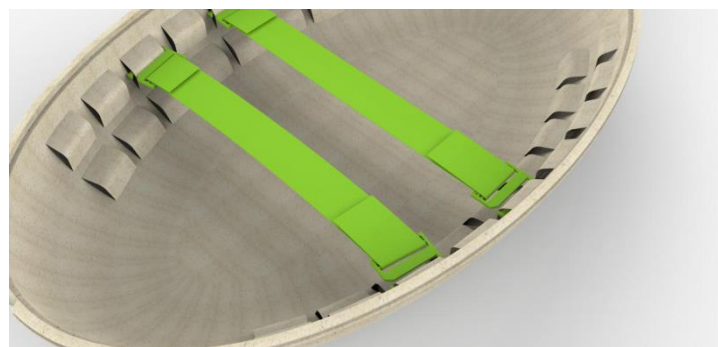


Figure 9. Product internal details.



Figure 10. Flower pot detail drawing.

4. Conclusions

This paper focuses on green design and emotional design, from the domestic and international pet funeral services and product status, national laws and regulations and the theory and basic principles of emotional service design, the needs of pet owners and pet parents and their potential. Several aspects of the demand to analyze, to create a viable pet funeral service system with high feasibility, profound meaning and green environmental protection for the target users.

Understand the current situation of pet funeral services, combine product and service design, target users can choose services through APP, more convenient and fast and trust the user's emotions. The innovation of this research is that the plant is trusted by the user, the product is pollution-free and degradable, and the service process is more convenient. The information structure of the emotional pet funeral service system is constructed, and the relevant service principles are proposed: firstly, the current pet body cannot be timely solved. The problem of reasonable handling allows the user's feelings about the pet to be pinned after the death of the pet, to promote the concept of green environmental protection, and to stimulate the society's thinking about environmental protection. But you need to explore the behavioral characteristics of users more deeply and explore the actual potential needs of users.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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