

Evaluation and Innovative Research on the use of Existing anti-lost Devices

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Abstract: Loss and theft of items is a social problem that is difficult to solve. The traditional methods of recovering items have certain limitations. The **anti-lost device** that is born is a concrete manifestation of the integration of science and technology to solve this problem. Its **intelligent anti-lost and anti-theft function**, to a certain extent, corrected people's misplaced behavior and reduced the occurrence of social theft. However, anti-lost products are not well known by people, and are accompanied by problems such as power consumption, misoperation and inconvenience. This article analyzes the advantages and disadvantages of the existing anti-lost devices, and proposes **innovative opinions** and measures for their shortcomings.

1. Anti-lost device products and market status

1.1 Introduction to Anti-lost Device

The anti-lost device product refers to a product that is based on Bluetooth connection technology and is connected to a mobile phone to realize the anti-lost product with the principle of two-way alarm between the sensor and the receiver [1]. Take the existing anti-lost device in the market as an example. It is connected to the anti-lost device product through the Bluetooth of the mobile phone, and the anti-lost device product is connected to the item that needs to be anti-lost through a certain method, such as attaching or putting it into the inside of the item. In the Bluetooth connection state when the item is more than a certain distance away from the mobile phone when the Bluetooth is disconnected, the mobile phone will sound an alarm. At the same time, this principle can also be used in reverse to prevent the mobile phone from being lost.

1.2 Current status of anti-lost device market

With the development of the times, the things people carry with them are becoming more diversified and convenient. People lack effective anti-lost means, the valuables they carry are lost or stolen, and the loss of important data may be irreparable.

As a new form of anti-lost device, the anti-lost device is currently in the rising stage of continuous development, and is constantly developing with the continuous improvement of known problems.

Due to the lack of popularization and publicity, people's understanding of it is not enough. As a new thing, people's understanding and acceptance of it is a long process, and many people will not buy the anti-lost device at the beginning. The desire of the product, only a small part of the population will take precautions after the more precious items are lost, which reduces the possibility of people understanding the anti-lost device.

2. Advantages and existing problems of anti-lost products

2.1 Advantages of existing anti-lost devices

(1) It reduces the probability of various items and mobile phones being lost or stolen. Preventing the loss of items and mobile phones is the main function of the anti-lost device. The longer the item is lost, the lower the probability of getting it back. The anti-lost device can respond quickly and issue an alarm after it is lost, which greatly reduces the loss of items. With the possibility of theft. As an extended use of the anti-lost device, it is applied to children and pets that are easy to lose, which greatly reduces the possibility of getting lost or lost, and solves the life loss troubles of some people, especially those who are very easy to lose items [2].

(2) It can effectively reduce the trouble of not being able to find items or mobile phones. The Bluetooth operation of the mobile phone APP can make the anti-lost products make a sound, so as to achieve the purpose of finding. Some better anti-lost products can also use the anti-lost device to make the phone emit Sound, in order to find the location of the mobile phone, the two are each other's sensor and receiver, realizing the two-way retrieval function.

(3) The combination of anti-lost and anti-theft reduces social theft. The use of anti-lost devices can effectively prevent items from being stolen, and at the same time, it also promotes the reduction of social theft from the side. When mobile phones or items are found to be stolen, use the mobile phone to let the stolen items or the anti-lost device to let the stolen mobile phone send out Sound, quickly lock the thief. From another perspective, anti-lost devices have a social effect that cannot be underestimated. With the popularization of anti-lost devices, the reduction of the success rate of theft will increase the factors that promote social stability and reduce the occurrence of various social crimes of theft.

2.2 Analysis of existing problems of anti-lost device

(1) Bluetooth connection will increase the power consumption of the mobile phone. At the same time, the continuous operation of the anti-lost device also requires power consumption. Due to the particularity of the anti-lost device, most of the anti-lost devices on the market are based on button batteries [3]. On the one hand, the battery life is generally insufficient and it is troublesome to change the battery, but it is too wasteful as a disposable product. On the other hand, the increase in the power consumption of mobile phones makes such products low in user satisfaction.

(2) Under current technical conditions, misoperation of Bluetooth-connected items is common. If it is possible to automatically disconnect the connection when the model is not strong, an error alarm model will be issued, which will cause unnecessary trouble to the user. Secondly, the user may inadvertently separate the mobile phone (receiver) from the anti-lost device (sensor). If the anti-lost device is in the bag, and the user goes to the toilet with the mobile phone without the bag, a false alarm may also occur.

(3) Anti-lost device, as a search tool to prevent items from being lost, should be convenient and concise, but the existing anti-lost device has the opposite reality. On the one hand, the volume of anti-lost device is small, and most anti-lost devices have only one button. , It is difficult for many people to set up anti-lost devices. On the other hand, anti-lost products need to be used with mobile apps.

The cumbersome operation makes anti-lost devices that should be used to solve the problem of people's lost items become inconvenient. Complex tools.

3. Optimized measures for the inconvenient functions of existing anti-lost devices

(1) Adopt wireless charging technology

The anti-lost device adopts the battery form and the cost is low, but with the development of science and technology, the arrival of infinite charging technology brings new possibilities for the anti-lost device energy storage mode. It can be matched with an infinite universal charger to achieve a long-lasting battery life. In addition to the troubles caused by battery replacement and the possibility of damage to the anti-lost device, on the other hand, the use of unlimited charging technology can achieve longer-term use, and there is no need to worry about the power can not get a long-lasting battery [4].

(2) Optimize the operating system

The limitation of Bluetooth connection is that it is subject to large external interference factors, which may be disconnected due to the wall, distance, etc., which will cause great inconvenience during the use of the anti-lost device. Optimize the incorrect operating system of the Bluetooth anti-lost device, Use misoperation recognition mode to reduce the frequency of false alarms [5]. Secondly, the alarm occurrence time can be prolonged appropriately, and the mode set by the user can be adopted, such as automatic alarm at a distance of 50 meters, etc., so that the misoperation of the anti-lost device can be flexibly reduced according to user needs.

(3) Take one-key operation and setting mode

Anti-lost device products use a large age range. In view of the different social characteristics of people at different stages, the operation mode of anti-lost device should not be too complicated. One-key operation and setting mode can better solve the problem that some users will not set it. In the case of anti-lost devices, at the same time, simple operation methods are also indispensable important features for products such as anti-lost devices, which conform to the convenient operation characteristics of such products [6].

4. Feasible innovations in anti-lost device functions

(1) Optimization of anti-lost camera function

In order to further increase the probability of item retrieval, the application of the camera function in the anti-lost device can effectively increase the probability of item loss retrieval. For example, when the anti-lost device is disconnected from the mobile phone, it will automatically take pictures and store it. The more expensive anti-lost devices on the market The device already has such a function, you can take a photo with the anti-lost device and then view it on the mobile phone, or use the anti-lost device to let the mobile phone take a photo and view it in the cloud to determine the location of the item.

(2) Anti-lost device quick distress alarm function

In view of the nature of the anti-lost device, an emergency help function can be added to it. On the one hand, it can be used in a special case, such as pressing 5 times in quick succession to achieve an alarm or sending a message for help to an emergency contact. On the other hand, it can also be used for It can increase the sound level, such as when a woman is harassed, it can be made to make a louder sound for the purpose of asking for help.

(3) Anti-lost device cloud data and remote retrieval after loss

Although the use of anti-lost devices can greatly reduce the probability of items being lost or stolen, it is not absolutely 100% anti-lost. In the case of using anti-lost devices or items are still lost, cloud data can be used to continue to help retrieve them, By locating the approximate location of the locked

item, and determining the specific location by taking photos, etc., in the case of the item being stolen, it can be used as evidence to quickly locate the target suspect and increase the probability of recovery.

(4) The "stealth" of the anti-lost device reduces the probability of being stolen

To realize the anti-theft function, it is necessary to ensure the normal operation of the anti-lost device. After the item is stolen, the anti-lost device is likely to be discovered and then disconnected, to ensure the "invisibility" of the anti-lost device, reduce the possibility of being discovered, and better guarantee the operation of its functions, such as decorating it, Designed for a decorative appearance that is not easy to make people suspicious, not easy to find, but also beautify the appearance of the anti-lost device.

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