

Design of E-Commerce Marketing Equipment Based On Cleanability

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Abstract: Connecting traditional billboard display screen with L-shaped card board, and using bidirectional telescopic rod, card board slot and cleaning board and other equipment through bolts and welding, we developed a billboard with adjustable angle, which is easy to watch and clean, and installed solar panels, and designed a cleanable e-commerce marketing equipment. The equipment not only has the characteristics of low cost, convenient cleaning and energy saving, but also has broad market prospects.

Keywords: E-commerce; Marketing; billboard.

1. INTRODUCTION

E-commerce is a business activity centered on commodity exchange by means of information network technology. It can also be understood as trading activities and related service activities in the form of electronic transactions on the Internet, intranet and value-added network, which is the electronization, networking and informationization of all links of traditional business activities. E-commerce usually refers to a new business operation mode in which buyers and sellers conduct various business activities without meeting each other in a wide range of commercial and trade activities around the world, under the open network environment of the Internet, and realize online shopping for consumers, online transactions and online electronic payment between merchants, as well as various business activities, trading activities, financial activities and related comprehensive service activities. Governments, scholars and business people in various countries have given many different definitions according to their position and different angles and degrees of participation in e-commerce.

The existing e-commerce marketing equipment has the problem that the position of the billboard for advertising promotion is fixed, and the angle cannot be adjusted to facilitate viewing; In addition, the existing e-commerce marketing equipment still has the problems that the display screen of billboards is exposed for a long time, which is easy to be defaced and inconvenient to clean. Therefore, we propose an e-commerce marketing equipment. The equipment not only has the characteristics of low cost, convenient cleaning and energy saving, but also has broad market prospects.

2. SYSTEM SCHEME DESIGN

The purpose of this topic is to provide an e-commerce marketing equipment to solve the problem that the existing e-commerce marketing equipment mentioned in the above background technology has a fixed billboard position for promoting advertisements and can not adjust the angle to facilitate viewing; In addition, the existing e-commerce marketing equipment still has the problems that the

display screen of the billboard is exposed for a long time, which is easy to be defaced and inconvenient to clean.

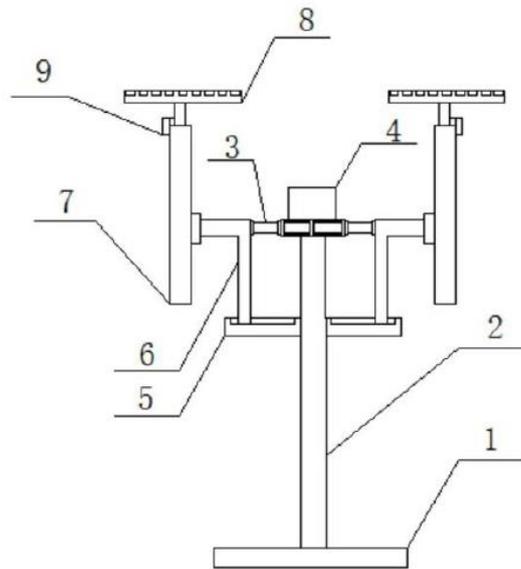
In order to achieve the above purpose, the subject provides the following technical scheme: an e-commerce marketing device comprises a base and a display screen, wherein a supporting rod is fixedly arranged at the center of the upper end of the base, a double-ended telescopic rod is arranged at the top end of the supporting rod, a storage battery is fixedly arranged at the upper end of the double-ended telescopic rod, slot plates are symmetrically arranged on both sides of the supporting rod, both ends of the double-ended telescopic rod are fixedly connected with an L-shaped clamping plate through clamping, And the other end of the l-shaped clamping plate is fixedly connected with the display screen through bolts, the top end of the display screen is fixedly provided with a solar panel, a telescopic cleaning plate is arranged at the joint between the solar panel and the display screen, the solar panel is linearly connected with a storage battery, and the storage battery is linearly connected with a double-headed telescopic rod and the telescopic cleaning plate.

The telescopic cleaning plate is fixedly connected with the bracket of the solar panel through bolts, and a cleaning brush is fixedly arranged at the telescopic end of the telescopic cleaning plate.

The double-ended telescopic rod is welded by two identical telescopic rods, and the lengths of the two telescopic rods are the same.

The brush head of the telescopic cleaning plate is located at the top of the display screen.

The solar panel and the display screen are bolted and fixed by connecting rods.



In the drawing: 1- base, 2- support rod, 3- double telescopic rod, 4- storage battery, 5- slot board, 6- L-shaped card board, 7- display screen, 8- solar panel, 9- telescopic cleaning board and 10- cleaning brush.

Fig. 1 overall architecture design of equipment

3. ADJUSTABLE BILLBOARD DESIGN

In the process of selecting the display screen, in order to achieve the purpose of color display, we choose negative RGB three-color and seven-color LED as the light source. For dazzling LED, the external 10-pin is equipped with a special 10-wire controller, and the internal control circuit can control 256 gray changes, which can match 1 million colors in theory. In the LED display module,

light sources are arranged in a row for cylindrical rotation. Under the condition of constant speed, a stable cylinder can be produced and the display effect can be more uniform. The single chip microcomputer controls the turning on and off of the motor and LED lamp, and accurately controls the LED lamp at a fixed position at a proper speed, so that the full-color picture is stable and the display is clearly visible. And when the rotating speed is fast enough, the image can display stably without flicker, stretching and deformation. The flexible and adjustable electronic billboard is formed by connecting LED display screen with L-shaped card board and slot board through bolts and other components, so that the billboard can be adjusted according to the comfortable angle considered by customers, giving customers a comfortable viewing experience.

4. SOLAR PANEL DESIGN

The model of single chip microcomputer used in solar panel is STC89C52, the model of illumination sensor is GY-30 module, and the model of motor drive is 1298N double h-bridge DC motor drive chip. It can automatically adjust the angle of the solar panel, so that it can achieve maximum power generation efficiency. First, we need to measure the angle of the sun. The idea of this design is to detect the illumination intensity. For the measurement of illumination intensity, this design adopts the illumination detection module GY-30. For angle adjustment, it adopts two groups of motors as power output devices for horizontal and vertical adjustment. Through constant rotation to achieve the best angle. Firstly, the horizontal angle is adjusted. The illumination intensity is detected from time to time by the illumination detection module and recorded from time to time by the single chip microcomputer. At the same time, the horizontal motor rotates until the illumination intensity reaches the maximum. At this time, the adjustment in the vertical direction is started, and the adjustment in the vertical direction is stopped when the illumination intensity reaches the maximum.

5. EXPERIMENT

According to the overall architecture design of the equipment, the equipment was manufactured and the experiment was carried out. When the advertisement is displayed on the display screen, the angle of the display screen can be changed according to the different positions of customers, thus bringing comfortable experience to customers. When the display screen needs cleaning, the telescopic cleaning plate can be used to clean the display screen without dead angle, saving manpower and time. It can be seen that the above experimental test is successful, and the designed cleanable e-commerce marketing equipment has a remarkable effect, which fully meets the pre-design requirements.

6. CONCLUSION

Clear e-commerce marketing equipment can realize the function of laterally moving the position of the display screen to facilitate viewing through the arrangement of the double-headed telescopic rod and the card slot. At the same time, the cleaning function of the display screen is realized through the arrangement of the telescopic cleaning plate, and the power required by the telescopic cleaning plate when working comes from the electric energy converted by the solar panel and stored in the storage battery. The manufacture of this equipment is environmentally friendly and energy-saving, and can bring convenience to customers, increase the comfort of customers when watching advertisements,

and bring unprecedented advertising experience. The most important thing is that this equipment has broad market prospects.

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