

Innovative Design of Humanized Personal Computer

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Abstract. The innovative computer design takes advantage of the theory of industrial design, design psychology, material science, ergonomics, computer aided design concept, also combined with designer's feeling and understanding of many years working on the edge of design field. This new design not only considered modern people's requirements but also made several innovations on functional optimization design, perfection aesthetic of modeling and using of the advanced materials and technology. Our mission is to make your operation more convenient, faster and more efficient, to provide users a completely new experience.

1. Introduction

The portable computer is more popular nowadays with the diversified life style and work requirements. It also becomes an indispensable part in people's working or entertainment. At present, according to the functions the portable computers can be classified as follows: 1.the computer meets the basic needs for internet; 2.the computer emphasizes the multiple media for entertainment; 3.the computer with powerful graphics processing functions for computer games; 4.the computer with powerful battery and data security for business affairs; 5.and recently appeared super portable and panel personal computer (PPC). Designers usually record their inspiration by hand and share the thoughts with his team and customers. After the hard work, designers also need some relaxation to ease their intense nerves. In order to make one type of outstanding computer especially for designers, our innovative computer thoughtfully considered all the needs besides the hardware, such as design idea, structure, materials and ergonomics etc.

2. Consumer Group Positioning

2.1 Age Position

The age of the main consumer groups locates from 20 to 40 years old, mostly are the youth or the groups who are more acceptable to innovative stuff.

Group further analysis:

This computer emphasizes the bold innovations on modeling, materials and colors which provide the strong perception with high technology. Our consumers must with capabilities to accept the new things. It also cares for the designers' special requirements.

2.2 Price Position

According to the results of the report, the most appropriate price is 20,000 RMB and acceptable price range is from 13,000 to 37,000 RMB. Considered the results of the report and the high cost of new technology and materials, the targeted price of the computer is 27,000 RMB.

2.3 Function Position

I learned more basic information and knowledge of portable computer through preliminary discussion and research about the interaction between people's behavior and computer operating habits. The new computer functions are positioned as follows: 1) in order to avoid the same modeling with other brands, operationally inconvenient and lack of specific, its modeling is more innovative with natural curve and the changes of the surface. 2)in order to make the portable computer concept into consumers' hearts, I combine with many innovative high technologies into it ,including: double HD + super sensitive touching screen, streamline modeling, asymmetric design,

the hyper surround sound system (2 + 2 structure and innovation of location layout), the ingenious fusion of iris biometric technology and humanism, Bi-stable nematic liquid crystal display technology, conceptual new material grapheme, touching super home button, R.L EI Button (the combination of the two sections of the power button and a shortcut key of custom function).3) under the premise of the quality assurance, the using of the new materials and technologies undoubtedly reduces the gross weight of the computer. In general, modeling, the structure and material, trinity which not only make the product more outstanding, simple and portable but also meet the special demands for today's market.

3. Product Innovations

1) Shocking: as a whole, the computer with senses of science and technology, such as streamline design and asymmetric design and cleverly infused the design of engineering structure.

2) Recording: double HD+super sensitive touching screen with a high color reproduction can record your fleeting inspiration anytime.

3) Communication: adopting the method of combining the functions of panel personal computer with tablet computer to diversify working modes, designers can share the thoughts and show his plans with his team or customers anytime.

4. Product modeling

Modeling methods can be divided into rational modeling method, perceptual modeling method and the traditional modeling method.

This portable computer combines the rational modeling method with perceptual modeling method. As a whole, the computer with strong senses of technology and times, such as streamline design and asymmetric design. At the same time, under the premise of making sure to meet the working requirements, I cleverly infuse the knowledge of engineering structure to make it light and more portable.

5. Product Structure

The word structure comes from Latin word Compo Sitio, which means layout, composition and connection. Except the beautiful modeling and high quality material, structure plays a very important role for a product. In addition to the physical effect, the beauty of the structure is an important approach for modern design. Putting it into one of the factors for design can create variety of aesthetic tastes. In history, a series of large and small excellent designs never ignored structure in addition to good design material selection. From the Bauhaus theory to the high technology in architectural design which all illustrated the importance and the pursuit of structure beauty.

6. Product Materials

With the progress of science and technology, more materials can be used in producing portable computer. Today, during the process of design and production, computer producers widely and mainly use following materials, including engineering plastic, polycarbonate, aluminum magnesium alloy, titanium alloy, carbon fiber materials, etc. Polycarbonate is the most popular material because of a series of excellent features (such as easy molding, with certain strength, easy coloring, insulation, etc). The most important feature is its low cost and producers can obtain the most benefits. For high-end positioning computers, aluminum magnesium alloy material is usually used because of its good quality and helpful for discharging heat. But this kind of material requires higher processing technique. Carbon fiber is a high-tech material, which been widely used in automobiles and aircraft. The biggest characteristic of this kind of material is light, high temperature resistant, and very resilient. As the high cost of carbon fiber, computer producers mostly use fake carbon fiber to substitute the real material.

7. Product Instructions

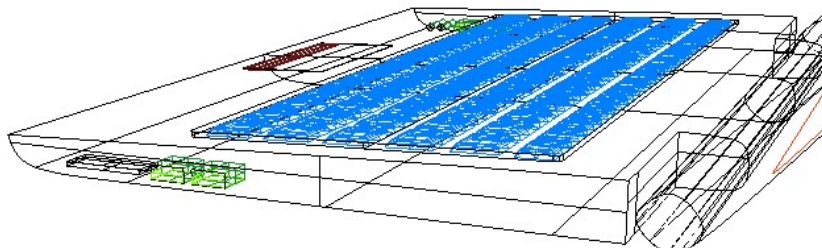
7.1 Product size

14 inch screen computer is the mainstream at present, but heat dissipation problems is not solved for a long time as its narrow space, and its portability is not so good either. Although 17 inch screen looks better, and heat dissipation is also very good, its portability is not very good. So, 15 inch screen computer is appropriate not only as its bigger space helpful for dissipation but also its size of the screen meets most people' needs. This innovative computer applies 15 inches design. Details as follows:

Length: 36.18cm width: 26.25 cm Height: the thickest: 2.55cm/ the Thinnest: 1.8cm The diagonal of screen: 15.7inches Screen aspect ratio: 16:9

7.2 The Interface Layout

The portable computer cancels unpopular VGA interface, and leaves enough space for other interfaces, but it retains the HDMI HD interface to make sure it still has the ability to connect the external display. Due to the slim design, this product has been cancelled a bloated Ethernet interface, users can connect to the Internet wirelessly, which meets the trend for the future development of a portable computer. If users must use the wired network, users can get online via adaptor of USB and Ethernet. A trade-off is for greater use of interface layout. From the picture below, we can see the portable computer with one HDMI interface, three Thunderbolt interfaces, three USB3.0+eSATA composite interfaces, one SDXC interface, one optical drive of suction type, one headphone interface, one microphone interface, one Kensington lock hole. Thunderbolt as a new type of interface is developed by Intel Company shown in picture 1.



Picture 1. Interface Layout

7.3. Multiple Modes

In order to meet different groups' requirements much better, this innovative portable computer can reach not only the level of functions about ordinary computer, but also designed with multiple modes. Both exquisite drum shaft design and double super sensitive touching screen make sure the realization of the modes. Tablet mode allows users to handle basic work and entertainment anytime and anywhere. In order to achieve energy saving purpose, during this mode, the computer automatically reduces hardware frequency and switches to the core graphics boards to improve battery life and ensure the mobility according to the judgment. Sharing mode can let users share interesting news or their design work with colleagues and clients timely, and people who watched the design can also give feedback by operating the touching screen. It's very convenient. Tile hand-painted mode is another very important mode. Special design of drum shaft can meet the maximum opening angle of 180 degrees. During design work, the designers can as painting by hand in tile super sensitive touch screen, as operating shortcuts in the keyboard. See picture 2.



Picture 2. Multiple modes

7.4 Version for Program

In order to meet the needs of different ages and different tastes, a variety of choices are provided by the portable computer. More and more young people love bright and lively colors nowadays to show their confidence and personality. Bright, lively and new are the theme of this innovative computer series, which is full of vigor and vitality. This series uses four bright colors including red, yellow, green and blue to match the unibody casting shell of polycarbonate and the carbon fiber at the bottom of the shell. With this portable computer, you will be the delegator of the fashion and the young no matter where you go. See in picture 3.



Picture3. Color Schemes

8. Conclusion

For a long time, the innovative portable computer is only with the functions of entertainment and office works to most people's mind. It also cannot meet the requirements of designers. But this portable computer is advanced as its bold innovation and exploration for its various additional functions. For example, users can hand-paint their fleeting inspirations with touching and display technologies, and share the schemes with his teams and clients through double screen schemes.

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