

Application Research of Flat Visual Elements in Interactive Interface

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Abstract: The flat style in the interactive interface does not only refer to the graph "remove 3D", but also includes the flattening of character, color matching, structures and visual elements in the interface. This paper mainly explores the essential characteristics of flat design of interactive interfaces of Internet WEB and mobile APP and so on, it points out that the essence of flat style is "form follows function" and "putting people first", deeply explores visual elements of flat style, and aims at providing useful visual references and references for art design of interactive interface.

Keywords: Flat style, interface design, interaction design, visual elements.

1. INTRODUCTION

The interface design tends to be flat, and it is essentially an important manifestation which product design returns from "putting material first" to "putting people first". The flat style originated from Switzerland and appeared in Swiss poster design in the 1940s and 1950s. The design with big picture and simple and easy-to-understand character makes the poster acquire a completely new outlook in vision, which emphasizes the readability of the poster, it is the result which the very prevailing postmodernism design style is applied into the flat poster at that time, it can be seen that the emphasis on good functionality pursued by modernism is also advocated by the flat style. The flat development has been in a dominant position so far, not only meets the needs of people's aesthetic at present, but also is the inevitable result which people pursue its essence.

2. INNOVATIVE ROAD OF FLAT STYLE

The flat style refers to the "design without 3D attributes" in the normal sense. It is a manifestation of two-dimensional space, namely a simple graph, shape, and does not add any interface that can represent the elements of space. The flat style is designed with extremely simple points, lines, faces, blocks and other elements. With the popularity of the Internet and the rapid saturation of the mobile terminal market, the flat style has been seriously affected by information. In the interface design of the information transmission terminal, by weakening useless graphical interference, users can naturally focus on information, people's attention

gradually changes from complex decoration to the recognition of interface functions, it can be said that the flat design is not only caters to the public aesthetic, but also is the inevitable choice in the information age.

3. EXPLORE THE ESSENCE OF FLAT STYLE

Hegel once said that what is reasonable is real; that which is real is reasonable. The flattening exists in information society, which will inevitably have its reason of existence. From the early "Swiss style" to the flat style with Minimalism Design, to the flat design style of the Apple system interface that we see today, the flat style has not stopped self-innovation from beginning to end, but no matter how it changes, the reason why it is called as flat style is its unchanging nature. Things are the process of quantitative change to qualitative change, when the quantitative change does not reach a certain degree, its "essence" remains unchanged, and they are still flat style.

The dialing icon of the early mobile phone interface was designed by the old-fashioned rotary dial telephone, which conformed to the people's perception of the rotary dial telephone at that time, later, as the rotary dial telephone was replaced by the keypad dial telephone, the public's perception of the dial image changed, accordingly, the icon design for dialing has also changed, only the outer contour of the handset was remained, the most ideographic part was retained, and flattening is accomplished. It can be found in the dial icon design, in order to make the "most ideographic part" to be quickly and efficiently delivered to the user's eyes. This kind of design abandons all the excessive carves and decorations that affect the meaning of the expression, and the essence is derived from the reference of the modernist style since the Bauhaus. The flat style inherits the essence of modernism, follows the "form follows function", and emphasizes "putting people first" and good functionality.

4. VISUAL ELEMENT PRESENTATION OF FLAT STYLE

4.1 Flattening of graph

(1) Flattening of icon

Icon design generally includes two categories: "App icons" and "bar icons". The "App icons" is an icon stored on the application platform, and the icon of the App used by people is the "App icon". The "bar icon" includes action bar, notification bar, navigation bar, and various other customized icons, which are essentially icons inside the App, and the two icons are inseparable from the App.

The "App icons" and "bar icons" have become increasingly flat, and various icons with bright and bright colors and block surfaces have been promoted since the flat style popularized. At the beginning of the "App icons" design, the skeuomorphism design, with the rise of flattening, the "application icon" began to gradually abandon the complicated and redundant components, only retained the most ideographic parts of the application, and highlighted the main functional information of the App. A set of graphic templates has emerged for the design of icons, this design seems simple but strictly follows the principles of geometry, and the icons produced are

rich in beauty of geometric simplicity. The "bar icon" requires a more simple form to represent relative to "App icons". There are many "bar icons" in App, and is often designed in the form of lines, which are simple and not tiresome. The utilization frequency and times of "bar icons" are much more than the "App icons", and the straightforward design elements are inevitable choices.

(2) Flattening of virtual buttons

Buttons are an essential design element in interface design. As a flat element, the flat button plays a vital role in the overall effect of the interface, the flat and simple button design allows the user easily focus on the key content and information without being disturbed by other visual elements such as buttons on the phone interface.

The most common form of flat buttons is the fillet line frame, namely the ghost button. The ghost button is already extremely flat, and the character in the fillet line frame is centered on the top, bottom, left, and right. The performance of the character and the simple line frame form make it absolutely clear, don't bother thinking about how to use it can greatly improve the use efficiency, the button design is intuitive, neat, and the expression is clear and effective, and the use efficiency is more prominent different from the previous embossed style and high-gloss shadow buttons.

4.2 Flattening of character

The character is different from graph, but character can be composed as a visual element. For character paragraph, its entirety is often treated as a graphical element in the form of block surface on the overall page for layout. The character not only has the overall structural attributes, but also has considerations on the single font. Single character has font, font size, bold, italic and other attributes, the choice of fonts is sometimes strictly regulated for flat design styles. For example, iOS 7 on Apple's mobile phone, the English font is Neue Helvetica series font, and Chinese selects the slim STXihei. Then in the latest version of iOS 9, the English font San Francisco and Chinese PingFang SC appeared again. The Sans-serif font is a font without strokes; the stroke of the font is basically the same from the beginning to the end, if the font of this character is formed as a line, it is also a graph composed of block surface, and it is a font with a flat minimalist style. The Sans-serif font considers pure readability and has extremely strong functionality.

4.3 Flattening of structure

(1) Flattening of status bar and navigation bar

The status bar and navigation bar are important parts of the App interface structure of mobile phone, the effect of flattening on the whole interface design also obviously includes the status bar and navigation bar. There was a clear division between the status bar and the navigation bar in the design of the early Apple mobile phone; however, as the interaction designer's optimization status bar and the navigation bar are gradually integrated, and the internal elements also changed, virtual buttons and return button on the navigation bar adopt borderless design, the character itself becomes button, which is both simple and improve work efficiency.

(2) Flattening of hierarchical relationship

The flattening processing for hierarchy is an important feature of the flat design; the processing for hierarchy refers to the reasonable classification and layering of the interface information to ensure the operation comfort. In the iOS 7 operating system, the control center uses semi-transparent navigation graph elements and animation effects to show the hierarchical relationship between the interface and the elements, which is a major leap in the history of application design. As the control center in the user gesture application is expanded upward from the bottom of the screen, the page is partially or completely covered on the page by semi-transparent frosted glass background, so that the function can be achieved without adding another level, which not only increases the user's good impression, improves use efficiency of application as well. The flattening processing of the hierarchy emphasizes the convenience and good functionality of the products, and it is essentially a flat design style.

5. CONCLUSION

Good interface design has always been devoted to humanized design, namely user-centered design. The flat design style adheres to the user-centered design concept with its good functionality, and pursues the “form pursues function”, and highlights the expressed meaning of the elements in the design. Flattening is no longer limited to the form but more reflect various aspects, its definition will gradually expand as the design style and people's constant pursuit of the product, finally, the meaning of flattening will become richer and richer.

REFERENCES

- [1] Cui Tianjian, Dong Tiantian. The Flat of Contemporary Interaction Design. Packaging Engineering, 2014, No.8. pp. 75-78.
- [2] Baidu User Experience Department and Experience Degree. Tsinghua University Press, 2014.
- [3] Zhao Dayu, Guan Dongsheng. The Art of Interaction Design. Tsinghua University Press, 2014.
- [4] Liu Jin; Li Yue. Become a Butterfly. Posts & Telecom Press. 2014.
- [5] Ma Wenjie, Han Fan. Research on Mobile UI Design Based on User Experience [J]. Drama House, 2017(22).
- [6] Ji Hongyu, Han Jinghua. Application of Flat Design in Interaction Design [J]. Packaging Engineering, 2015(6).