

# Application of Zigzag Horizon Holographic Image Technology and Product Design

Qing Shi, Chaoyu Li, Yu Liu, Kelin Song, Yaru Chen, Yongjia Luan, Ziyang Ding, Mingyu Ding

Department of Digital Media Arts, Qingdao Huanghai University, Qingdao, Shandong Province, China

**Abstract:** With the improvement of the current social economic level and the level of science and technology, people's living standards are also improving, and the products of science and technology are more and more favored by the people and gradually integrated into people's life. With the change of scientific and technological level, many electronic devices have appeared in the modern market to meet people's different needs. At the same time, various new electronic technologies such as holographic projection technology, virtual display technology (VR) and augmented reality technology (AR) have also emerged, which have better solved most of people's needs in life and satisfied people's satisfaction of new things. Therefore, I hope to create a product that combines technological product design, digital UI interface and artistic image effect to change human life bit by bit.

**Keywords:** 5G era; Virtual display technology; Product design

## 1. Design topic selection sources

### 1.1 The purpose and significance of the topic

According to statistics, most young people have the pain point of not being able to put down their mobile phones at night and getting up in the morning, more than 90% of young people need to address the need to plan their own schedule, people need a way to plan their routines and have a good experience. Therefore, the design purpose of this product's "zigzag vision", it is to integrate mobile phones with holographic image technology and wireless charging technology into people's daily routines, through voice interaction, schedule planning, holographic display and wireless charging functions, it can make people better plan their work and rest time.

### 1.2 Feasibility analysis

#### 1.2.1 Domestic and foreign market and development trends

(1) According to the data analysis of the use of holographic technology at home and abroad, there are three types of holographic technologies recognized at home and abroad: 360-degree holographic display technology, air projection technology, laser beam projection technology, generally speaking, the three holographic projection technologies have not been able to get rid of the limitations of the media, and the cost is very expensive. At present, they are currently in the laboratory stage, and it is difficult to commercialize commercially on a large scale in a short period of time, but it must also be the future development trend.

(2) According to statistics, most of the use of domestic and foreign holographic products is used for holographic display of high-end products and large-scale stage holographic performances. Holographic images are more used in large-scale exhibitions, and there are few indoor household products.

(3) According to the statistics, there are a wide variety of time apps at home and abroad. The functions are mainly simple alarm clocks and timing functions, and there are fewer app products with intelligent voice interaction and planning work and rest functions.

#### 1.2.2 User research

(1) Based on speculation that people may rely on electronic products and make it impossible to plan their work and rest reasonably, From this, the data was obtained from the "daily use of electronic equipment for college students and staff" for 426 young people aged 18-35: College students and staff use 65% of electronic equipment for 3-6 hours a day, 1-3 hours account for 31%, and only 5% of a few people use less than one hour of electronic equipment, It can be seen that electronic devices have been widely integrated into

people's lives.

(2) At the same time, the data is obtained through the investigation of whether it is impossible to work regularly because of electronic devices, 76% of people can't work and rest reasonably because of electronic devices, and only 24% can reasonably plan their work and rest.

## **2. Design strategy**

### **2.1 Design introduction**

(1) The brand app design will use "Zlock" as the name of the app. The internal interaction level of the product is simple, and it can be opened and used immediately. In terms of function, you can plan your work and rest. When you reach the set main time, the corresponding interface will pop up, prompting you to put your phone in the holographic display, and then you can conduct human-computer interaction through AI voice.

(2) Through the design of simple application interaction level pages, users of different ages can be guided to get started quickly and use smoothly. The main interface is divided into startup page, product selection page, guide operation page, holographic interface, time planning interface, and setting interface.

(3) The "zigzag horizon" product will use the most convenient holographic image technology, which has smaller volume, lower technical threshold and better effect. Its principle is to use a semi transparent and semi reflective film, which is called transparent holographic film, as a medium, the object becomes a virtual image in the film. Because it is semi transparent, you can see the scene behind the film. Visually, it gives people a three-dimensional illusion. This three-dimensional image will give users a vivid sense of real three-dimensional space.

### **2.2 Design ideas**

This product is promoted through a virtual brand, which is named "Zigzag Vision", the brand's products will be planned for two, with Z-1 and Z-2 models, wireless charging technology will be adapted by customizing wireless chargers that match the appearance of the product. They are two holographic products with different experiences of the same style. At the same time, the brand image and the whole VI system will be designed for this brand.

### **2.3 Application value**

(1) The product has low production cost and better use effect. It can complete some basic operations such as setting alarm clock and time display through voice interaction and holographic display. At the same time, it can also reduce the frequency of picking up mobile phones before going to bed. It also has the function of personal work and rest planning, so that people can better enter into a better rest and have a better state, and solve people's needs for better work and rest experience and more scientific life.

(2) The product has better secondary development space. It is a product that has never appeared in the market at present. It combines wireless charging+holographic display+mobile app and intelligent voice assistant. It is more developable for the future and has the greatest possibility to better integrate into people's lives.

(3) The registration of independent appearance patents and utility model patents will better guarantee the protection and development of the whole series of products.

### **2.4 Main research content**

- (1) Study the principle and usage scenarios of hologram imaging
- (2) Analysis of design principles (study of appearance size, shape and imaging viewing angle)
- (3) Discuss how to apply ergonomic theory to practical products (sitting and lying positions are the height of the human eye)
- (4) Analyze the principle of wireless charger
- (5) Learn the principles of user experience design and interaction design
- (6) Study the basic principles of typography design (better interface layout)
- (7) Research the logic and principle of voice assistant speech recognition

## **3. Scheme planning and design**

### **3.1 Brand and product design scheme**

#### **3.1.1 Brand Design**

The product brand image logo consists of the letter Z composed of an hourglass shape, the letter Z is the initial letter of the English "Zig-Zag World" of the brand name, the shape of the hourglass expresses the brand's core value of time management, use hexagons as an outer frame to express the brand's sense of technology. At the same time, dynamic graphic design is carried out for this logo,

better expression of brand connotation .



Figure 1 Brand Logo Specification Chart

### 3.1.2 Product Design

The two product models of Z-01 and Z-02 owned by the brand will be independently designed double-layer holographic imaging equipment and wireless charging technology , With the combination of mobile phone software and voice assistant, it is integrated into people's daily work and rest, so that people can complete some basic operations through voice interaction and holographic display without picking it up, such as checking time, weather and answering calls,At the same time, you can also plan your personal work and rest time. Through the personal work and rest planning function set by the software, you can remind people to put their mobile phones into the device for regular rest, reduce the frequency of picking up their mobile phones before going to bed, so that people can better enter the rest and have a better state. It will bring people a portable holographic experience and convenient daily life.

### 3.1.3 UI Design and Dynamic Graphic Design Scheme

By designing simple and easy to use interaction level pages, users of different ages can be guided to get started quickly and use them smoothly,The main interfaces are divided into: launch page (showing dynamic logo design animation to express the core concept of the brand), product selection page (based on the model used), guide operation page (simulating operation through animation to let users quickly start), holographic interface (the content of this page will show holographic display effect when used with hardware), time planning interface (setting the rest interval by adjusting the button position) Setting interface (basic setting function, time zone and skin replacement).

## 3.2 General rendering

### 3.2.1 Hardware matching display effect picture

The integrated design of Acrylic makes it have both appearance and durability, while saving more costs. The double-layer structure enables it to have better visual effects and more visual expression. Users can also make their own holographic images through diy.

## 4. Conclusion

From conception to completion of this design work, I spent a lot of time and energy, from the initial product scheme, brand design scheme, UI design scheme, continuous improvement and iteration, and continuous optimization centered on user experience. In the preliminary production of product appearance, UI interface design, I made a lot of preparation, a lot of reference and trial and error, in the design process, I also encountered a lot of difficulties. However, by constantly studying the problem itself and looking for new methods, I finally solved these problems.

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