



Building Products through Original Intuition and Artificial Intelligence

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ABSTRACT

In this paper, the author emphasizes on the instantaneous decision-making based on human brain and the decision-making based on big data artificial intelligence analysis. What kind of impact these two different decision-making methods will have on the product design process? The advantages and disadvantages of two different ways of product design, intuitive design by observing human unconscious behavior and product design by big data analysis, and the key factors are described in detail. Through the conscious design, to achieve the unconscious behavior and give people the best user experience the research concluded that we should pay attention to finding design inspiration from unconscious behavior of people, so that people can use these products in the unconscious. In addition, besides, with the rapid development of science and technology, faster and more intelligent tools will make product designers focus on more things that are important: users and products themselves. Therefore, the existence of artificial intelligence and big data are also good for product designers.

Keywords: Original Intuition; intuitive design; artificial intelligence; big data; product design process

INTRODUCTION

When product designers design products, different designers use different methods to perceive a product idea and for decision-making [1]. This paper focuses on two ways, a) the user's unconscious actions and b) some consistent data on the Internet, to find problems in life to design products. Expounding and comparing the two methods is the main content of this paper. Although it is very tough to find problems by eyes in real practical life, but it is also necessary for us to make sure whether the problems calculated by online data really exist in real life or not [2]. For design, advanced technology brings us not only convenience but also harm, and human intuition may surprise us inadvertently [3].

BACKGROUND

The books *Blink* and *The Master Algorithm* introduced the author to the knowledge of decision-making ability and AI & machine learning. Malcolm Gladwell [4] lists a large number of factual cases in *Blink*. He tells us that when we think about things carefully to a certain extent, we can use the experience to make a quick judgment without thinking carefully. Senior art appraisers do not necessarily analyze whether a collection is a forgery from the details of the objects. They often feel wrong at first sight when they see the fake, but they cannot explain why it is wrong. A person's place shows a person's soul, so strangers can feel your character when they visit your room, but they cannot explain the logic of making a judgment. After many years of life, you have known yourself very well and can also capture and feel the critical information of others. Therefore, you can quickly think whether the other person is in harmony with you, but you may not know why you are "at first sight" with him for a while. In fact, the human brain is the most decathlon computer, and life is the big data. Intuition can believe, and even sometimes it can make more scientific and accurate decisions than rational thinking and rigorous analysis. Pedro Domingos [5] tells us the ultimate algorithm, no matter how powerful it is, is always a tool in human hands. How to use it in the end still depends on people's decisions. This puts forward requirements for people who master artificial intelligence in the future. In the course of life on earth, the next few thousand years are probably the most amazing. How will artificial intelligence develop in the future? Will the ultimate algorithm appear? Let us see. In the process of product design, will our intuition and existing data affect the judgment of designers, and how? This is the main content of this paper. As for the first direction, the author started from the unconscious design and read the book of unconscious written by Sigmund Freud, to understand the definition of unconsciousness. Afterward, studied the speech of the representative of unconscious design, Naoto Fukasawa, on the forum. In the second direction, the author examined Cao Hui's research to find out what the real goal of product design is, and to think about whether artificial intelligence can be better to meet current goal?

EXPLORATION

When Decisions made very quickly can be every bit as good as decisions made cautiously and deliberately ref. The power of thinking, in that first two seconds, is not a gift given magically to a fortunate few. It is an ability that we can all cultivate for ourselves [4]. The intuition that can make us decide in an instant is not so simple. We often encounter the situation that "I can't say why, but I think it's wrong." which is not unreasonable as it seems. A

friend who has known you for a long time and a stranger who has visited your room can make the same accurate judgment and evaluation on you. At first sight of meeting a person we know whether it's right or not to be good friends with him. Without thought, also known as intuitive design, is a design concept first put forward by Japanese designer Naoto Fukasawa, that is, "transforming unconscious actions into visible things" [6]. For example: people who often cook usually know that when cooking rice, adding common ingredients can make the rice taste unexpected. For example, adding vinegar can make cooked rice more tender and soft. Even though most people know this common sense, they still forget to add accessories or feel troublesome and do not use them. Therefore, we can make a product that automatically adds the corresponding auxiliary materials in an unconscious action when cooking rice. This design is called "unconscious design". Fukasawa [6] thinks that it's better to find something that exists but has not been found by people than to design something new. However, the "unconscious" well is not directly involved without children's knowledge, but has not realized what we want. Still, it is something we know we need, and what Fukasawa has noticed is just all kinds of life details about the "unconscious" that we have neglected. Fukasawa thinks that design should be reflected in people's unconscious behavior. He uses a simple example to explain the ideological roots of his design: sometimes when people send messages, they will choose to follow the road dedicated to the blind, and he can see without eyes and not go wrong. In other words, this yellow road, which usually provided for the blind, embodies its new value at this time. And when people walk, it's not just a kind of behavior that they learned when they were young, but a kind of value that you need to look for when you walk, that is, to find your foot's attention. Therefore, following the blind path when texting is a continuous behavior of seeking value. When people, things and the environment reach perfect harmony, this behavior is a kind of behavior of finding unconscious and valuable. Human's spiritual consciousness is divided into three levels: consciousness, preconscious, and unconsciousness [7]. Unconsciousness is the most important of the three. If we do not admit the existence of unconsciousness, many psychological phenomena cannot be explained. Unconsciousness refers to those things that do not enter the level of consciousness under normal circumstances, such as the suppressed desire, secret thoughts, and fears, etc. In the complete psychological process, unconsciousness plays a more important role than consciousness [7].

Human beings unconsciously have an integral relationship with the surrounding environment, especially the daily living environment [8]. For example, when people walk, they don't consciously think about walking and opening doors, floors, and feet, and don't think that doors can only open with handles. In other words, unconscious behavior is natural and fluid. Objects have a wonderful relationship with consciousness, environment, and people. Let's think about whether there are some hints of design potential in the environment before we design something. For example, in a place where there is no umbrella, almost everyone should unconsciously put the umbrella in the corner. When you are building a new house, you need to design something to hold the umbrella, but there is no need to design this place as a special space for holding the umbrella. As long as you make a groove on the ground, when the guests come to the house, they will naturally put the umbrella there. This unconscious action the designer's goal is to achieve the function of putting an umbrella. But when many designers design the place to put the umbrella, they usually think of designing a container to put the umbrella first. But, Fukasawa thinks of the close relationship between people and the environment first. The design of products should be observed from the perspective of people's use, not from the beginning of items [9]. Time, space, and users are all important factors in product design. Design is for people's design, and the production of products is for people's use.

HOW AI AFFECTS DESIGN?

In 2016, the man-machine go to warred between Lee Sedol and alpha dog attracted the eyes of the whole world. Finally, the defeat of Lee Sedol made the world have more expectations for today's AI [10]. Human beings always have a natural and ardent desire for artificial intelligence. Many people love science fiction. They love the surreal intelligence in science fiction. In the American drama "suspect tracking", we have invented a super artificial intelligence system - "machine", which can almost "see" and "hear" everything in the monitor and network. It can dig out the hidden deep connection behind the seemingly isolated events, and even can have feelings, understand good and evil, have moral standards, and live out is a super-intelligent "person". In real life, "big data" and machine learning technologies have brought many conveniences to daily life, such as the intelligent recommendation of shopping websites, intelligent navigation, intelligent sweeping robots, intelligent service robots that can serve vegetables and pour water, etc. [11]. Machine learning is the core of artificial intelligence and the fundamental way to make computers have intelligence. Its application covers all fields of artificial intelligence. It mainly uses induction, synthesis rather than deduction [5]. Some typical algorithms have formed in the field of machine learning, which can solve specific problems. So, is it possible to integrate the multiple existing algorithms and become a more powerful and universal ultimate algorithm that can comprehensively deal with all problems? One-click generation of advertising, illustration, layout, visual manuscript, such as technology, and products in a sense almost in front of us. It is still too far to build a brilliant system, generate materials according to the needs of specific audiences, understand the subtext of human emotions and semantics, and understand the concept of behavior and the meaning of beauty. However, it is entirely feasible to set up a special deep learning system and an automatic design process to free designers from some completely manual work. There are many new design materials and design tools to do this. What most deep learning tools have in common is that they can help us remove the tedious parts of the design process, to speed up the different combinations in prototype design and test. Although these tools are powerful, they can't judge which design is effective, which is the right choice, even if it looks good. It is still necessary for designers to screen the results of in-depth learning in the design process. Tools reduce the time consumption in the design process, and even eliminate some physical losses. More flexible tools bring more free creation process. However, we still need to follow the design principles and specifications to output the right results and judge whether the design is available. For deep learning, the same is true.

4.1 Case Study: Netflix

Netflix uses the algorithm to analyze the user's movie taste based on the user's viewing history, and then recommends movies and TV programs based on these data, and even generates the corresponding preview map. For example, if you watch a lot of romantic love movies, this algorithm will highlight the romantic elements in the film in the preview. Or, if the algorithm detects that you like comedy, Robin Williams, the comedian in the drama "the catcher of the soul", will be presented separately to attract you. On Netflix's technology blog, you'll find the content of these related personalization algorithms. This topic has been repeatedly mentioned; with the help of machine learning or artificial intelligence to do design, it still faces a lot of challenges.

4.1.1. Challenge 1

As time goes on, customers' expectations will be higher and higher. With the passage of time and the progress of technology, users' expectations will change. For example, customers will expect whether this technology can be more intelligent, better, and faster than before. And companies like Apple and Google have begun to gradually implant AI assistance into the editing functions of pictures and videos in their mobile systems. Automation and intelligence are becoming the essential functions of products in the eyes of many consumers.

4.1.2. Challenge 2

The AI experience needs to be designed in a gradual and diversified way to maintain the necessary trust between the system and users. In some cases, the personalization of the AI system is critical. In other cases, we need AI to deal with problems quietly in the background. Such different situations need to be realized through design. At the same time, it is very important to make users feel that they have enough control right at any time.

4.1.3. Challenge 3

Products and experiences will become more dynamic. Our design, workflow, and tools also need to be able to keep up with the changes of the times. Non-responsive design has been an unacceptable situation. At the same time, designers should start to define the rules of products and design, and design well according to the real and dynamic data. The design system will be as flexible and compatible as the complex ecosystem.

5. CONCLUSION

Design is the work of transforming people's thoughts into forms. Excellent design is the embodiment of truth, goodness, and beauty. The design of things is not only for watching, but also for people's partners in life. It's something that must use in life. It's something that slowly feel in the use of animation. Because "the original intention of the design is a kind of conception and plan, as well as the image creation process of visualizing the understanding and project by specific means. The purpose of design is to eliminate the factors that do not meet the goal of human use, to meet the direct needs of human survival. We must pay attention to looking for design ideas from people's unconscious behavior, so that people can use these products in the unconscious and play their functions, that is, through conscious design, to achieve unconscious behavior and give people meaningful enjoyment. Faster, smarter tools will allow designers to focus more on the essential things: users and the product itself. Even though the design seems to be more and more comfortable to achieve, it is still a complex and challenging thing to control the quality, make enough excellent ideas, and let all elements and functions run smoothly. As a designer, you need to know technology, know design well, and understand the connection and operation principle between these things and human beings. This is the foundation of future designers to find problems to be solved in life, solve problems, and rationalize the whole system, which is the goal. Therefore, we believe that artificial intelligence, or design tools based on in-depth learning at present, can let designers gradually spend their energy on more important things. Designers don't need to find a new career path (unless your work is just a simple copy and mechanical work). Instead, designers should start to dig deeper into the whole system and rules, excavate and think, and make good use of the automation system and deep learning technology to move towards the new world.

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