

AIGC Assisted Generation Craft Based on Dialogue Interface

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Abstract. Design requires a new model to help creators continuously generate, iterate, and evaluate ideas, i.e. process reengineering based on the raw materials of generated content, as AIGC becomes increasingly involved in the creative generation of digital content. This paper derives the human-machine collaborative process of AIGC assisted generation based on dialogue interface from the entire process of creating the prototype of usable dialogue interface generated by AIGC and creates a global reference for AI-assisted tool interface design based on particularity.

Keywords: Dialogue interface, AIGC, interface interaction, man-machine collaboration.

1. Introduction

The creation of content, particularly creative labor, has traditionally been regarded as a distinctive representation of the design perspective. The fresh approach to content development known as AIGC fosters improved innovation and teamwork in the field of art design while releasing value through human-machine collaboration. Therefore, from the standpoint of man-machine collaboration, the design process for AIGC-assisted design can better match user objectives while using resources more efficiently, expanding design concepts, and assisting designers in improving design efficiency and quality.

2. Background And Significance Of The Research

2.1. Design-related status of AIGC-assisted content generation

As a tool as well as a method for finding creative answers to issues, art design is typically seen as the subjective expression of the whole range of the designer's own perspective and imagination. In 2022, AIGC (AI-Generated Content) started to take an increasingly active role in the creative creation of digital content, including text, photos, audio, and other content or multiple media types of phase conversion, known as "multimodal content". [1]

With the introduction of the wave of artificial intelligence, the previous emphasis on design components, manufacturing, and learning may shift to the development of a new order, that is, the study of people's behavior, emotional changes, and other more complicated processes. [2] In this situation, design needs new models to assist creators in continuing to conceive, iterate, and evaluate ideas. This will lead to more efficient, and cost-effective ways of producing digital content. More accurate and enlightening material is produced by AIGC, as it can learn from vast volumes of data and spot patterns that humans would not notice. This ability to generate content enables it to produce a significant amount of content at a low cost and high quality, far exceeding human efficiency. It also releases value in a collaborative way between humans and machines, allowing content creators and more common users to redesign and re-create beyond the boundaries of "technique" and "efficiency."

2.2. Man-machine collaborative design process

The term "craft" describes the procedure and method that craftsmen use to treat diverse raw materials and semi-finished goods before turning them into finished goods. On the one hand, the content produced by AIGC at the moment is still insufficient to create autonomous design works, and at its current state, it can only be examined and reasoned in accordance with rules and databases, which cannot achieve true content understanding but do supply raw materials for design. However, when designers produce, they tend to base their decisions on their own personal experience, feelings, and knowledge of aesthetics and user demands, which is process redesigning based on generated

content. [3] As a result, when describing the AIGC craft in design work, this study primarily refers to man-machine collaborative creation, which is the ongoing action of reengineering design raw materials until the finished product is generated.

According to the above characteristic interpretation of AIGC-generated content from the perspective of design, the word "craft" is cited as the creation process reference in this study, and an attempt is made to explore the AIGC-assisted design process based on dialogue interface in order to produce a universal reference for the AIGC-assisted design of tool interface on the basis of particularity.

3. Research Support

3.1. ChatGPT: Text-based text generation

As a conventional text generated AIGC, ChatGPT mostly uses Web dialogue. It permits text-based interactions between humans and computers as well as the interpretation, reasoning, correlation, and creation of creative content. This demonstrates that ChatGPT has the necessary theoretical and practical art expertise to interact naturally with people, recognize and address issues, and then offer text-based answers, opening up the prospect of achieving design imagination on a broad textual basis. [4]

3.2. Midjourney: Text-based image generation

AI image generation is an important part of AIGC, with Text-to-Image being the most widely used generating method. Midjourney, which is deployed on Discord and available to users in the guise of a chatbot, is particularly typical; while it cannot ultimately produce wholly new products, it may elicit creativity in designers based on pictures. [5] Users must describe the contents of the photographs in depth, add prompt words such as effect and style, or provide corresponding picture references if they wish to generate results that are more in line with their needs.

Based on the existing usual text generation and picture generation AIGC, ChatGPT is one of the major processes of man-machine cooperation to provide design direction for Midjourney and may provide reference value for AIGC to realize design transformation.

4. Case Experiment: Text-Generating Aigc Guiding Image Generation

4.1. Selection of the Case Object

Since ChatGPT and Midjourney both communicate with users and respond to their needs in the form of dialogues, and mobile terminals are the most commonly used conversational interfaces at present, the study selected the conversational interfaces of mobile terminals as the experimental objects and recorded the whole process of ChatGPT guiding Midjourney to generate usable conversational interfaces. Compared with the existing mobile conversation interface, the human-machine collaboration technology based on AIGC-assisted production of dialogue interfaces is obtained.

4.2. Case study process

The technique for this case study involves ChatGPT4 and Midjourney.

First, the definition of Midjourney was explained to ChatGPT, and it is assigned to the usual prompt word formula. ChatGPT served as a prompt word generator. The whole case follows the flow of: ChatGPT instruction input; ChatGPT generates text; extract text information; enter the texts into Midjourney; evaluate image results; re-enter instructions. As shown in Figure 1, to guarantee that the designer is involved in every point of contact in man-machine collaboration.

ChatGPT is mostly utilized in the normal generation stage to refine the stack of prompt words and generate images near to designers' expectations, with enormous images of Variation instructions in Midjourney.

(c) Pictures assist period

At this stage, the generated images essentially meet the designer's requirements. Because Midjourney can understand the design requirements based on the picture link, the designer can offer images and previous prompt phrases to assist in developing the outcomes. This case includes the image reference generated in the previous stage and the picture reference of some Wechat pages based on the prompt words at the conclusion of the previous stage, and the resulting conversational interface has the following characteristics: Having the current mature mobile terminal conversational interface prototype; Inadequate design specifications; The ICONS and word placements in the created material provide a basic knowledge of the functional partitions.

4.3. Case study analysis

4.3.1 Text Input

According to the case study procedure and generating findings in Table 1, the number of prompt words given by the designer is positively connected with the quality of the generated images matching the requirements.

When designers demand images to be generated based on conversational interface functions and prompt words connected to user processes, the output quality is more in line with design objectives. The iterative text input procedure occurs mostly during the case study's adaptation stage, when the designer re-directs the generation of prompt words in ChatGPT following image evaluation.

4.3.2 Image evaluation and input

The end point in the case study procedure is the result of the AIGC-assisted image production. In fact, the designer cannot generate the image directly but has to rely on the text-generating instructions after assessing the generated results in order to achieve a more suitable result.

Similarly, the picture input procedure is at the last touch point in this scenario, and the user offers the image link as a reference in the Midjourney, which is utilized to direct or complete the overall image generation at the start or end.

4.3.3 Designer touchpoints

When the designer requests AIGC to generate text as a given identity, the efficiency of the process increases. During the AIGC-assisted picture generation process, the designer must analyze each created content and send the reviewed or updated material to the next phase. Currently, the designer's review of the created result-instruction re-input procedure is an iterative AIGC content process.

Being a dialogue interface, the chosen case object is a very constrained piece of auxiliary generated content with powerful tools and clear design requirements. To complete the design creation process, designers are required to take the problem as the direction and technology as the auxiliary means, and the outcomes of technical analysis are more in line with functional logic and user flow processing.

5. Research Conclusion And Application

In the case study process, by creating an approach in which designers participate in AIGC full contact points, the AIGC assisted generation process based on dialogue interface is divided into three stages, and the process is considered complete when the prototype with the current mature mobile terminal conversational interface design is generated.

First of all, when the designer requests that AIGC generate text as a given identity, the generating efficiency increases. Designers must iterate over the text input, assess the image, and then re-direct the ChatGPT prompt word creation. Because ChatGPT can swiftly generate vast volumes of text and go on to the next step, it allows the user to stack prompt words and provide as precise instructions as possible to help Midjourney grasp the needs. Finally, to finish the design creation, users must process

the created results in accordance with functional logic and user flow or add other kinds of references, such as images.

As part of the AIGC-assisted design craft, designers generate a large number of prompt words and images to replace many basic creations. They then integrate and create the process in the context of AIGC outside of the traditional thinking mode, encouraging creativity and causing the linear design field to undergo exponential change.

References

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