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THE POWER OF EMOTIONAL DESIGN: A STUDY ON VISUAL INTERFACE DESIGN TO ENHANCE USER ENGAGEMENT IN ONLINE EXHIBITION PLATFORMS

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ABSTRACT

This paper employs affective theory to investigate strategies and determinants for enhancing user engagement and satisfaction on convention and exhibition platforms. It aims to establish a theoretical foundation for subsequent design endeavors and delineate relevant design elements. The research is focused on multimodal theories and methodologies of affective design for digital exhibition websites, along with offering supportive technologies for the affective design of such websites. Various research methods are employed across different stages and contents of the research work, incorporating descriptive analysis and quantitative analysis. The proposed research methods encompass literature research and questionnaire survey methodologies, facilitating the collection and analysis of data pertaining to users' emotional fluctuations and satisfaction elements when utilizing online convention and exhibition platforms. The findings underscore the impact of users' emotions on the operational efficacy of exhibition platforms, as well as the correlation between key design elements of online exhibition platforms' interfaces and users' emotional experiences. This study contributes to addressing practical challenges in the design of online exhibition platforms and aligns with the objectives of fostering an innovative exhibition service model as advocated by the Chinese government.

Keywords: Web interface, User satisfaction, Emotional design, Emotional interaction, User emotional experience, Multi-modal emotional experience, Behavioral Intent Prediction

Introduction

Exhibition website interface is an important part of exhibition website, which is a platform for direct communication between trade and business enterprises and users. The

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interface of exhibition website is not only a window for trade enterprises to show their corporate image to users, but also an important means to show the content of goods to users and help them complete transactions. Website interface design includes interface appearance design and interaction design. From the user's point of view, interface appearance design affects the user's emotion in terms of sensory experience and perceived usability, which has an important influence on whether the user continues to use the website. Interaction design is a technique of how to make a product easy to use, effective and enjoyable. A website with good interactive features will generate positive emotional responses such as pleasure, surprise, trust and good memories, and conversely, negative emotions such as frustration and discouragement. Therefore, a well-designed exhibition website helps users to form a positive attitude toward the website, and increases their stickiness and revisit rate.

With the development of economy and technology, design has been gradually upgraded from the 1.0 era, which is function-oriented, to the 4.0 era of engineering, which is dominated by user-centeredness, service innovation and experience innovation, and then to the 5.0 era of industry, which is characterized by human-machine collaboration and human-machine integration. Driven by this industrial background, the advancement of computing and intelligent technology has led to the integration of HCI technology into various areas of life, and the system evaluation of HCI has expanded from the traditional usability index to the richer scope of user experience (Zhang, F. 2017). With the increasing homogenization of competition in e-commerce websites, users' emotional experience and satisfaction have been recognized as a key factor in the success of digital exhibition websites. The ability to accurately access users' emotional needs and transform them into design elements to guide website design is an inevitable requirement for website design to meet users' emotional needs.

This study aims to multimodal theories and methods of emotional design for digital exhibition websites, and to provide supporting technologies for emotional design of digital exhibition websites.

Research Objectives

1. To study the role of emotional design in the visual interface of online exhibition platforms and its impact on user engagement.

2. To analyze the key design elements in the visual interface of online exhibition platforms that elicit and enhance user emotions and engagement.

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Literature Review

Historical Review of Research on Interface Design and Interface Emotionalization for Digital Convention and Exhibition Websites

The concept of Web interface has evolved from the traditional concept of human-computer interface. The traditional human-machine interface includes the human-machine interface in the broad sense and the human-machine interface in the narrow sense. Human-machine interface in the broad sense (Human-Machine Interface) refers to the human-machine interaction with the "surface", all the human-machine information exchange occurs in this "interface". Human-machine interface design mainly refers to the operation of the display, controller and the relationship between the two, should make the human-machine interface design in accordance with the rules and characteristics of the exchange of information between the user and the machine. Human-computer interface in the narrow sense (Human-Computer Interface) refers to the computer system in the human-computer interface, also known as human-computer interaction (Human-Computer Interaction) or user interface (User Interface). 1980s, with the promotion of a new generation of computer technology research. Human-computer interface design has become an independent and important field of research.

With the continuous deepening of research, the study of website interface design has gradually developed into three main schools of thought: technology-centered, art-centered, and user-centered.

(1) Technology-centered. This faction is generally composed of scholars in the field of computer and new media, and the research scholars in this direction mainly include Reynolds (2000), Rich (2008), Rognerud (2014), Wiedemann (2006), Murtagh (2013). Their research mainly focuses on how to realize the presentation of business website interface and the realization of interactive functions through technical means.

(2) Art-centered. This school is generally composed of scholars in the field of art and design, and scholars in this direction mainly include Beaird (2007) and Stocks (2011). This school of thought mainly adopts a qualitative analysis method from the perspective of art, and discusses how to combine the constituent elements of website interface design, such as text, images, lines, and so on, in an artistic and organic way.

(3) User-centered. This school is generally composed of scholars in the field of psychology and interaction design, and scholars in this direction include Anderson (2012), Krug (2013), Lazar (2005). This school mainly adopts experimental research or empirical research from the perspective of users' own experience to explore the influence of website interface design elements and user experience. User experience focuses on all the feelings of users interacting with a website, sensory experience, functional experience, and emotional

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experience. User-centered theory has become a school of thought recognized and pursued by the majority of scholars.

In recent years, there has been a growing interest in the emotional design of web interfaces. The theoretical basis for this aspect of research is the Stimulus-Organism-Response (S-O-R) theoretical framework proposed by Mehrabian and Russell (1974) from the perspective of environmental psychology. According to the S-O-R framework, external stimuli affect the user's emotional experience, which in turn affects the user's behavioral intentions. Emotion is a key variable that moderates the relationship between the stimulus and the user's intention. Bucy (2000) argues that emotional responses determine which website or interface the user chooses to use, as the pursuit of pleasure increases the user's effectiveness in using the product.

For the representation of emotional factors in interfaces, Luce, Bettman et al. argue that the study of emotions that influence purchase decisions is very important. Advertising and marketing emphasize the importance of emotion recognition in product acceptance, interaction, and design.

The S-O-R theoretical framework proposed by Mehrabian and Russell (1974) is an important theoretical basis in the field of marketing for studying the influence of the internal store environment on shopping behavior. The theoretical framework is shown in Figure.

Environmental stimulus (S)	Organism: Emotional response (O)	Behavioral Response (R)
Sensory channel variables (e.g., color, temperature) Information ratio (Spatio-temporal relationships between stimulus components describing the environment)	Pleasure Awakening Strength degree	Approach-avoidance (Including physical proximity, exploration, attribution, execution, or other verbal or nonverbal preferences)

Figure 1 S-O-R theoretical framework
Source: Mehrabian and Russell

According to Donovan & Rossiter, the organismic variables include both emotional and cognitive dimensions, where perceived pleasure, satisfaction, etc. fall under the category of emotion, while perceived risk, perceived value, etc. fall under the category of cognition.

Mummalaneni (2005) measured the environmental characteristics of an online store using a scale that was measured from two perspectives: design features and atmospheric factors. Oh et al. (2008) examined two design elements of online store ambience: storefront design and information presentation, and the empirical results showed that storefront design and information presentation affect consumers' impression of an online store, which then

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affects consumers' expectations of online store quality. Porat and Tractinsky (2012) examined the effect of important website design features (aesthetics and usability) on affect and attitudes in an online clothing store and a bookstore. The results suggest that the effect of design aspects on attitudes is partially moderated by affect, and that some design aspects also directly affect attitudes. Both pleasure and arousal were associated with attitudes toward online stores, with pleasure emerging as the most important moderating variable between website design elements and attitudes. Floh and Madlberger (2013) used shopping pleasure as a moderating variable to construct a structural equation model linking three types of ambience factors (content, design, and navigation) to proximity variables (impulse buying behavior) on e-commerce websites. The results showed that website design and navigation had a significant effect on pleasure, online store content had no effect on pleasure, and shopping pleasure had a significant effect on impulse buying and browsing.

Among the three schools of thought in website interfaces, domestic scholars in the art-centered school of thought are represented by Lu Xiaobo (2006) and Xiao Zhongwen (2008); domestic scholars in the user-centered school of thought are represented by He Renke (2007) and Luo Shijian (2010).

As for the application of the affective theoretical framework in websites, starting from the business model of online trading platforms, Huang Sihao, Wu Juhua et al. (2014) pointed out that trading websites with social functions can ultimately build their core competitiveness through huge user scale and high stickiness.

User-centered digital convention website and user emotional experience

Most scholars have examined high-level abstract design dimensions. Park et al. (2005) state that e-commerce websites can be designed according to different design dimensions, each of which contains different design elements. Examining abstract design dimensions provides better insights because there are so many design elements and interactions that it is difficult to examine the impact of design elements independently. The design dimensions examined in the study focus on factors such as the environment, atmosphere, aesthetics, and usability of the online platform store.

Online store ambience is the conscious design of the online platform environment to increase positive consumer response and thus positively influence the user. Webmospherics, a term coined by Childers et al. (2002), includes website design attributes (e.g., graphics, text) and website layout (e.g., organization, product grouping). Richard (2005) identified navigation features, website information content, and website entertainment as webmospherics factors. ha et al. (2007) proposed webmospherics factors including background music, advertisements, colors, product view presentation, color presentation, product presentation, and product pairing. Manganari et al. They summarized the literature on the impact of online store ambience and design factors on consumer behavior and concluded that the four online store ambience factors are interface layout, aesthetic ambience,

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interactive effects, and social features. Mazaheri et al. (2011) categorized ambience factors into visual and auditory dimensions and perceptual dimensions in terms of their impact on emotionality. Among them, according to the S-O-R theoretical framework, the interface feature factors in the audiovisual dimension induce the initial emotion of the user (consumer), while the information, effectiveness, structure, and entertainment of the website in the perceptual dimension must be cognitively evaluated before the user can perceive the corresponding emotion. Floh and Madlberger (2013) analyzed the three categories of website content, website navigation, and website design affective factors and concluded that website navigation is a high task-related affective factor and website design is a low task-related affective factor.

For user emotional experience, Norman proposed a hierarchical theory of user emotional experience in Emotional Design, which includes instinctive, behavioral, and reflective levels. Bhattacherjee (2001) and Sangwon (2010) pointed out that good product usability is not the only product metric that satisfies the user, and hedonistic aspects of a product or system's use, aesthetics, and perceived pleasure may influence user satisfaction even more than perceived usefulness (usability and utility).

For the domestic online exhibition platform design theory, should consider the vividness (vividness), interactivity (interactivity), symbolism (symbolism) and social elements (social elements). Vividness is the degree of variety of information presented to the user's senses, interactivity is the machine-mediated responsiveness and feedback felt by the user during manipulation, symbolism refers to the website platform used to indicate the reliability and reputation of the website, and social elements include the tools for interpersonal interaction provided by such commercial websites, such as proxies and online communities.

Summarizing the research of scholars such as Song and Zinkhan, Chubing Zhang et al. (2017) proposed that the more positively users (consumers) evaluate the information content, navigation system, and appearance design of a website, the better their experience of website interactivity will be. In other words, to improve the experience of website interactivity, transactional websites should consider all three aspects to form a combination to create the best website atmosphere, and optimize the three aspects of information content, navigation system and appearance design from the perspective of user needs.

Measurement of Emotion and User Experience Measurement

From the three aspects of emotion, there are three main methods for emotion measurement: subjective questionnaire survey, behavioral observation and physiological measurement. The characteristics of user experience measurement indexes determine choice of user experience measurement methods, and user experience measurement methods can be divided into two types: subjective measurement and objectivity measurement, of which objectivity measurement includes behavioral data measurement and physiological data measurement. Therefore, this study chooses to use subjective questionnaires, behavioral observations and physiological measurements.

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Research Methodology

Employed to gather comprehensive and insightful data regarding the role of emotional design in the visual interface of online exhibition websites and its impact on user engagement. The combination of qualitative and quantitative methods will provide a more holistic understanding of users' emotional experiences and engagement.

Table 1 Research Methodology

Objectives	Methods	Research instrument	Data analysis
1. To study the role of emotional design in the visual interface of online exhibition platforms and its impact on user engagement.	Literature research methods, experimental research methods, and interview research methods were used.	1. The corresponding literature is retrieved through the use of databases, which mainly include CNKI, EBSCO, Emerald full-text journal database, and Pro Quest full-text dissertation database (PQDT). 2. With the help of different cognitive research tools (eye-tracking technology and EEG ERPs technology), we comprehensively analyze the inner mechanisms of users' perception of web interface satisfaction, and specifically explore the psychological mechanisms, brain mechanisms and eye-movement patterns that generate user satisfaction.	Combining quantitative analysis with qualitative analysis.
2. To analyze the key design elements in the visual interface of online exhibition platforms that elicit and enhance user emotions and engagement.	The proposed research methods include literature research method, questionnaire research method, experimental research method, interview research method, and statistical analysis method.	1. Analyze different aspects of users' affective experience when interacting with e-commerce websites and identify the main indicators used to measure users' affective experience when interacting with e-commerce websites; analyze the relationship between the affective indicators of different measurement modes.	Combining quantitative analysis with qualitative analysis.

Source: Author

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1. Qualitative study

Qualitative research methods will be used to explore users' emotional experiences and perceptions in-depth. The following qualitative techniques will be employed:

Interviews: Semi-structured interviews will be conducted with industry experts, professional consumers, and general consumers. These interviews will provide valuable insights into users' emotional responses, preferences, and engagement with online exhibition websites. The interviews will be audio-recorded and transcribed for thorough analysis.

Observations: Direct observations of users' interactions with online exhibition websites will be conducted. This will involve observing users' behaviors, gestures, and facial expressions to capture their emotional responses and engagement. Detailed field notes will be taken during the observations.And by using EEG, EMG and other devices to record and summarize the user engagement as well as emotional state of the subjects.

User Feedback: User feedback, including comments, suggestions, and criticisms, will be collected through online surveys and feedback forms. This will provide additional qualitative data regarding users' emotional experiences and perceptions of the visual interface design. During the validation phase, the authors invited experts to assess the final design conclusions using the adoption of the likert5 scale.

2. Quantitative study

Quantitative research methods will be employed to quantify and analyze the collected data. The following quantitative techniques will be utilized:

Surveys: Online surveys will be administered to a sample of general consumers to collect quantitative data on their emotional experiences, satisfaction levels, and intention to revisit online exhibition websites. The surveys will utilize Likert scale and multiple-choice questions to gather specific data points for analysis.

Behavioral Data Analysis: User behavior on online exhibition websites will be tracked and analyzed. This will involve collecting data on users' browsing patterns, duration of interaction, click-through rates, and other relevant metrics to assess their engagement with the visual interface design.

Research Results

1. With user satisfaction as the objective of investigation, multimodal emotion measurement methods and data of users' interaction with convention and exhibition websites were extracted, and the relationship between measurement modes and emotion indicators was analyzed.

This paper proposes a method for measuring the emotional experience of users of convention and exhibition websites based on multi-modal measurement, and analyzes the

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relationship between different modes of emotional experience. The prerequisite for transforming users' emotional needs into useful design information is an effective emotion measurement method, and the complexity of the emotion measurement method depends on the complexity of the emotion, and the vast majority of current emotion measurements about websites are subjective questionnaire surveys, in which subjective questionnaire surveys are retrospective rankings, which are not able to reflect the user's emotions when browsing the website in real time. Although eye movement measurements and physiological measurements can capture users' emotional experience when browsing websites in real time, single-mode affective measurements are unable to comprehensively understand the three aspects of users' emotional experience, whereas the multi-mode affective measurements used in this study are able to better understand the three aspects of users' emotional experience when browsing websites, as well as the relationship between the three aspects of emotional experience. This not only has certain reference significance for the study of the measurement of users' emotional experience in the process of interaction with websites, but also lays the foundation for the future development of convention and exhibition website design and the study of new interaction modes.

2. Convention and exhibition website is oriented to users and merchants, government, etc.. It is a new form derived from offline convention and exhibition, which is committed to exerting the advantages of digital economy, building intelligent view of venues, and building a new channel of digital exhibition information. For the digital exhibition website, it should choose the appropriate guidance method according to the user's emotional level, give the user the perceived experience of instinctive emotional attraction, enhance the user's behavioral ability, as well as transfer the value to the user and get the sense of achievement.

3. The process of guiding users' decision-making behavior includes two stages of behavior change and habit cultivation, and the habit cultivation stage is the process of guiding users to maintain their usage behavior and form their usage habits. First of all, through the emotional attraction to generate awareness of the website, and then strengthen the motivation to generate behavioral intentions, in the process of use gradually improve the ability to make decisions, and finally cultivate behavioral habits to maintain behavior.

4. At the beginning of the design of guidance for users' decision making, we determine the principles of guidance from the aspects of guidance goal and guidance design, to ensure that the guidance goal fits the positioning of the website content product and conforms to the user's behavioral intention. Combined with the results of the experiment, we extracted the user's emotional and behavioral characteristics in each interface as the basic basis for the user, and analyzed the user's behavioral goals by combining the user's scenario variables with the user's behavioral path prediction. In the cognitive stage, the user's attention

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is attracted and the user's interest is strengthened by replacing the instinctive level of emotion, mainly through the effects of color, layout, icons and dynamics of the aesthetics of the website interface. In the intention and decision generation stage, the difficulty of using the website can be reduced through emotional responses at the behavioral level. In the maintenance stage, users can be encouraged to create a long-term and stable emotional connection with the website by accumulating achievements and triggering emotional resonance at the value level. As the exhibition website is a digital derivative product of the development of the exhibition industry, it is necessary to put more emphasis on the display of products and the communication between users and exhibitors in the website design, so as to establish the bond between the website and the user and enhance the user's loyalty.

Research Discussion

The theory and methodology employed in this study address practical challenges related to assessing users' emotional experiences on digital exhibition websites, predicting their behavioral intentions, and designing emotionally engaging elements such as the homepage and navigation menu. This provides valuable technical support for researching users of web interfaces.

The research methodology applied here not only assists in the development of research on web interface users but also thoroughly explores the cognitive mechanisms underlying users' evaluations of web interface satisfaction. These findings offer essential reference points and practical guidance for designing web interfaces that are truly "user-centered." Such designs are tailored to meet users' needs and align with their perceptions of satisfaction.

Furthermore, understanding the brain mechanisms involved in web interface satisfaction opens avenues for real-time monitoring of user satisfaction—a novel approach that can enhance product design by creating emotionally appealing experiences. These insights serve as methodological references and guidance for crafting products that resonate with users on an emotional level.

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แนวปฏิบัติและความคิดสร้างสรรค์ในการออกแบบเครื่องประดับสัญลักษณ์ OUROBOROS ร่วมสมัย
INNOVATIVE PRACTICE AND REFLECTIONS ON CONTEMPORARY JEWELRY DESIGN WITH OUROBOROS SYMBOL

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ABSTRACT

In the realm of contemporary jewelry design, there is a growing focus on innovation, with one particularly notable design element being the incorporation of the Ouroboros symbol. Originating as an ancient motif, the Ouroboros holds significant symbolic meanings across various cultures. Its representation as a serpent forming a circular shape embodies concepts of eternity, cycles, regeneration, and infinite recurrence. This study employs literature analysis, field investigation, and qualitative research methods to explore how the Ouroboros symbol can be creatively integrated into contemporary jewelry design and the resulting impact on the field. The research demonstrates that incorporating the Ouroboros symbol in jewelry design breaks away from traditional frameworks, adding cultural depth and philosophical contemplation, thus providing designers with a wider creative spectrum. Moreover, the application of the Ouroboros symbol in contemporary jewelry offers consumers more diverse choices, catering to the demand for personalized and culturally significant pieces. This article aims to explore the integration, innovation, and exploration of the Ouroboros symbol in contemporary jewelry design, combining traditional symbolic meanings with new technologies and materials, and providing valuable insights for the development of jewelry design from a creative perspective.

Keywords: Contemporary jewelry design, snake symbol, personalization, integrated innovation

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Introduction

Contemporary jewelry design is a dynamic field that thrives on innovation and creativity, where designers constantly seek to push the boundaries and create pieces that are captivating and distinctive. In this case study, our objective is to delve into the realm of innovative jewelry design, particularly focusing on pieces inspired by the Ouroboros symbol. The Ouroboros, depicted as a circular serpent consuming its own tail, holds immense cultural significance and carries deep symbolic meanings across various cultures. Beyond its aesthetic appeal, this symbol embodies concepts of eternity, cycles of life and death, regeneration, and the eternal cycle of creation and destruction. It transcends mere ornamentation and becomes a reflection of the wearer's identity and emotions. By delving into the innovation inspired by the Ouroboros symbol in jewelry design, we aim to uncover the intricate ways in which designers have interpreted and incorporated this symbol into their creations. From intricate metalwork to avant-garde material choices, designers have leveraged the versatility of the Ouroboros symbol to create pieces that are not only visually striking but also laden with symbolic depth. Through this case study, we seek to shed light on the transformative power of symbols in contemporary jewelry design. The Ouroboros symbol serves as a catalyst for creativity, inspiring designers to explore new avenues and challenge conventional design norms. As we unravel the innovation in jewelry design inspired by the Ouroboros symbol, we hope to gain a deeper understanding of how symbols shape our perceptions and interactions with jewelry, enriching our appreciation for artistry and cultural significance inherent in each piece.

Picture No. 1: Ouroboros pattern
Source: Ningrui Zhou(2023)

Research Objectives

1. To study and analyze the meaning and symbolism of the circular Ouroboros serpent in various cultures.

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• Study and understand cultural significance of Ouroboros symbol in different cultures.

• Analyze the meanings and roles of this symbol in each culture.

2.	To investigate and analyze innovative case studies of contemporary jewelry that incorporate the circular Ouroboros serpent in their designs:

• Survey and analyze contemporary jewelry pieces that use the circular Ouroboros serpent in their designs.

• Examine the unique characteristics and innovations involved in incorporating the Ouroboros symbol into contemporary jewelry design.
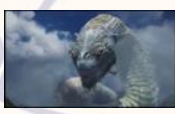
Literature Review

Through a comprehensive study of the literature, the researcher can conduct an in-depth discussion of the research objectives. These documents cover research content in multiple disciplines such as semiotic theory, linguistic semantics, social anthropology, comparative cultural studies, art and religion, contemporary semiotics, and design innovation theory, providing researchers with opportunities to study the role of the Ouroboros symbol in jewelry. Innovative applications in design provide rich theoretical support and multi-dimensional research perspectives.

**1.	The meaning and symbolism of the round ouroboros in different cultures**

As mentioned in the above literature and information, the Ouroboros and its related elements are considered to be symbols or sacrificial objects representing royal or divine power. This implies that the Ouroboros and its related elements had important religious, power, and ritual significance in society at that time. Analysis of the unearthed circumstances of the artwork and its historical and cultural implications show that this cultural relic was given special status and value at that time. Documentary materials describe the shape and decorative classification of ouroboros and related elements, highlighting its artistic features. Described as graceful and agile in shape and intricately decorated, these aesthetic features highlight the value and appeal of Ouroboros and its related elements as works of art.

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Table 1 Different cultural characteristics of Ouroboros

Culture/region	Performance	Significance	Picture
Hongshan Culture	"Curled dragon" symbol	Represents the mysterious power and symbolism in ancient culture	
Egyptian civilization	Devouring itself in the form of a snake	Represents life cycle and infinite updates	
Norse mythology	Jörmungandr the Serpent	Symbolizes world boundaries, limits and endless cycles	
Christianity	Self-reducing boundaries and limits	Representing finite existence and following in the footsteps of the evangelists in Ecclesiastes	https://www.jianshu.com/p/d2ca9d8beedc
Hungary and Romania	"Holy Snake" emblem	Important symbol in Unitarian churches	
Gnosticism	World soul	The soul that represents infinity and the world	

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Culture/region	Performance	Significance	Picture
Hinduism	The snake god Shesha surrounds turtle god Kulima	Support the symbol responsible for carrying the entire world	
African Wind Tribe and Dahomey Tribe	Rainbow serpent icon	Represents the specific image of the Rainbow Serpent in local beliefs	
Aztec people	Quetzalcoatl	Depicted as an Ouroboros	
Regency of Carnaro, Italy	Ouroboros on the flag	A symbol of fascism	https://www.bilibili.com/read/cv10234562/

Source: Ningrui Zhou (2024)

An extensive literature review was conducted to understand the historical and cultural evolution of the Ouroboros symbol and the latest applications of 3D printing technology in jewelry design. Various academic sources, articles, and publications were explored to build a comprehensive foundation for the research.

2. An innovative case study of incorporating round ouroboros into contemporary jewelry

Ouroboros is endowed with various meanings in literary works, including luck, auspiciousness, divinity, cunning, coldness, mystery, longevity, wisdom, and kindness. These meanings not only reflect the ancient people's understanding and emotions towards ouroboros, but also reflect the rich interpretation and interpretation of the image of ouroboros in literary works.

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Jewelcrafts men in these civilizations cleverly utilized the elements of ouroboros to create a series of stunning ouroboros jewelry. They are not only symbols of wealth and status, but also cultural treasures that have been passed down for thousands of years.

In modern society, ouroboros jewelry is still highly sought after. Many well-known brands, such as Cartier, Bvlgari, Boucheron, etc., cleverly incorporate ouroboros elements into jewelry design. These ouroboros jewelry are either elegant or bold, showcasing unique fashion charm. At the same time, ouroboros jewelry has also become the love of many celebrities and socialites, adding a unique touch of charm to their designs.

Table 2 Design concepts applied to works of art

Country / region	Beliefs/Background	Jewelry/Artwork	Jewelry / Artwork
Thailand	The Naga Lasso has multiple symbolic meanings in Thai culture, representing the power, wealth and protection of water. According to legend, Naga Lasso is patron saint of rivers, lakes and oceans	Naga Lasso	https://shopee.co.th /harmenstone
China	The dragon in Chinese mythology has strong vitality and lasting sanctity because it is combined with the most powerful secular political power.	Gift utensils / accessories	Nanjing Museum 2024
Japan	Japanese Mythology Yamata no Orochi	Wooden ornaments	https://www.metmu seum.org/art/collect ion/search/59360
Ancient Egypt	In ancient Egyptian religion, the Ouroboros was given the symbolic meaning of the sun and was regarded as the incarnation of the sun, representing its rising and setting, as well as the cycle of time.	Menqebit (Snake Head) Amulet	https://www.metmu seum.org/art/collect ion/search/550966

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Country / region	Beliefs/Background	Jewelry/Artwork	Jewelry / Artwork
Ancient Greece	Snake-shaped rings and bracelets are popular in Greece because they are associated with the mythical Hades, and snakes are also a symbol of Asclepius, the god of medicine.	Bracelet	https://www.metmuseum.org/art/collection/search/547914
Ancient rome	Consider snake as a patron saint, symbolizing eternal life.	Silver bracelet	https://www.metmuseum.org/art/collection/search/257818
Africa	The coiled snake is considered a symbol of femininity and fertility.	Snake pendant	https://www.metmuseum.org/art/collection/search/310733
Europe	The European Ouroboros culture is influenced by ancient civilizations and Christian culture, and is often regarded as a mysterious and sacred symbol.	Brooch	https://antique-gallery-soleil.com/products/detail.php?product_id=4574
India	Snakes are considered to be the incarnation of Shiva, one of the three main gods of Hinduism.	Necklace	http://igem.ly/e/47685/10dt3U

Source: Ningrui Zhou (2024)

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An in-depth look at the history and current status of crafts. In the study of the Ouroboros symbol, researchers can get inspiration from the historical evolution of handicrafts, draw on the skills and aesthetics of traditional crafts, integrate them into contemporary jewelry design, and create jewelry works that both inherit tradition and modern.in the research, the material innovation of the Ouroboros symbol in contemporary jewelry design can be explored from the perspective of design thinking. Through the integration of handicrafts and digital technology, the works can be given deeper meaning and expressiveness, and at the same time, inspiration can be obtained from the historical evolution of handcrafts. Creating jewelry pieces that blend with tradition. This comprehensive research method can not only enrich researchers' understanding of the Ouroboros symbol, but also help promote the development and innovation of contemporary jewelry design.

Innovation is the prerequisite for the continuous development of contemporary art, and innovation of contemporary jewelry materials is the mission given to artists and designers by the times. At the same time, it also includes exploring the organic combination of various materials, seeking creativity and new forms of artistic expression, absorbing the essence of traditional materials and traditional arts, strengthening innovations in the material, texture, visual experience, touch and other aspects of handicrafts, and pursuing contemporary jewelry art. A higher level of sublimation of quality. The design and innovation of contemporary jewelry must keep up with the pace of the times. We must firmly grasp the trend of the times, inject fresh blood in line with the flavor of the times, and be closely integrated with science and technology, pay attention to environmental protection, and respect tradition. Only in this way can contemporary jewelry art glow with more vigorous vitality.

Table 3 Contemporary jewelry design artist works

Artist	Work	Material
Julia Walter		Recon. lapis-lazuli, nylon string, aluminium
Babette Boucher		Pinecone, nylon cord, shakudo
Chloe Valorso		Python snake vertebrae, silver, gold.
Emily Cobb		Metal leaf, nylon, acrylic.

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Artist	Work	Material
Linda van Niekerk		Tasmanian wilderness driftwood, sterling silver, silk
Bernard Schobinger		Iron, cultured pearl, gold, black diamond, malachite pigment, cinnabar pigment
Emiliana Design Studio		Laminated wood

Source: Ningrui Zhou (2023, https://klimt02.net/jewellers)

In the design of jewelry and utensils, these different beliefs and cultural backgrounds are intertwined, making the Ouroboros an inspiration for designers. Designers cleverly incorporate the Ouroboros symbol into various jewelry, ornaments and utensils, giving these works deep symbolic meaning and meaning. Whether it is classical silver jewelry, gold necklaces, or modern bracelets and rings, ouroboros appears in different forms, showing diverse artistic styles and design concepts.

In general, ouroboros carries rich cultural connotations and symbolic meanings in the beliefs of different countries or regions. It has shown diverse artistic expressions in jewelry and utensil designs, and has become a symbol of people's pursuit of a better life and sacredness. One of the symbols of faith.

Research Methodology

This research adopts a multidisciplinary approach, combining historical analysis, cultural studies, and technological exploration. Primary data will be gathered through interviews with contemporary jewelry designers and experts in 3D printing technology. Additionally, a comparative study of traditional craftsmanship and digital fabrication techniques will be conducted. The Ouroboros symbolism will be examined as a case study to understand its adaptation in the digital era.

The research methodology for this study involves a systematic approach that combines historical analysis, cultural studies, and technological exploration. The process can be divided into two main parts: data collection and data analysis.

1. Data Collection: The data collection phase focuses on gathering information relevant to the research objectives. The methods employed in this phase are tailored to the nature of the research and may include various data collection techniques.

Case Studies: Representative case studies were examined to gain insights into contemporary jewelry designs inspired by the Ouroboros symbol. These cases encompassed

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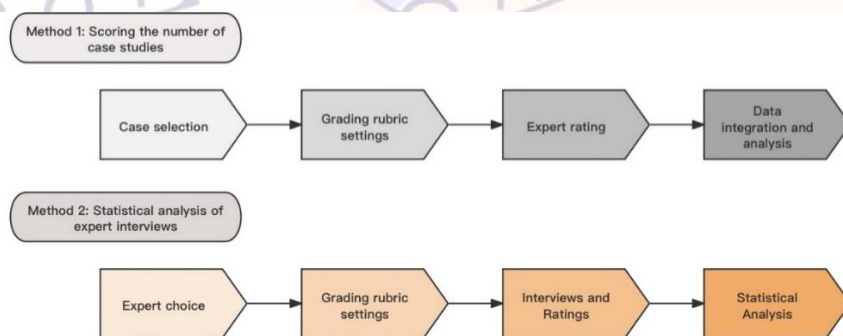
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diverse styles and creative techniques within the realm of jewelry design. The analysis of these cases provided valuable data on the innovative approaches used by designers.
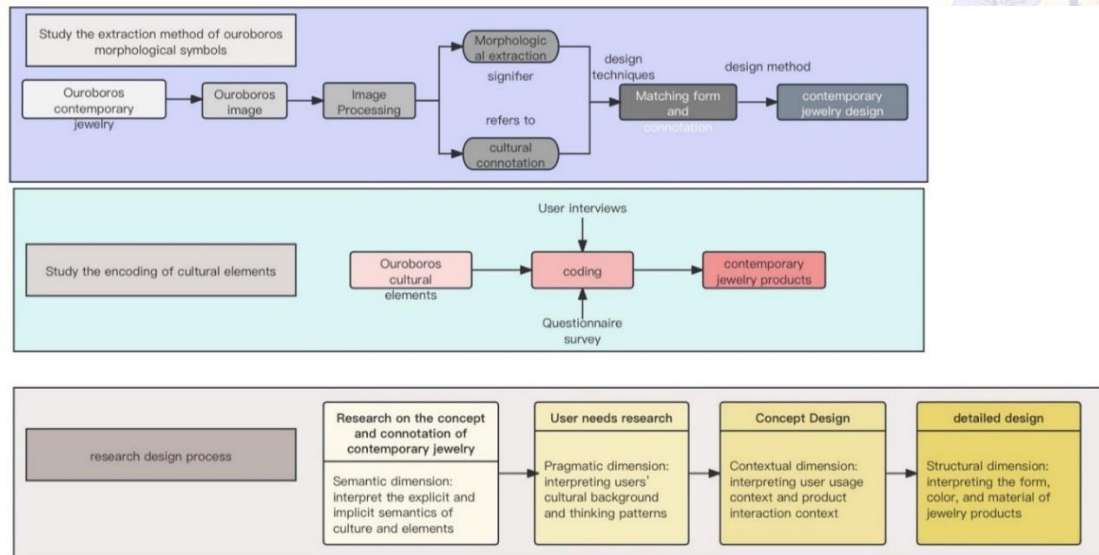
**Picture No. 2** Research on Symbolic Extraction
Source: Ningrui Zhou(2024)

Interviews: Indepth interviews were conducted with contemporary jewelry designers and experts in 3D printing technology. These interviews aimed to gather firsthand experiences and insights into the challenges, innovations, and improvements encountered in the integration of symbolism with technology in practical creations.

Comparative Studies: Comparative studies were carried out to examine the differences between traditional handmade craftsmanship and digital manufacturing techniques in jewelry design. This comparative approach facilitated the assessment of the advantages and limitations of 3D printing technology.

Picture No. 3 Interview and questionnaire research
Source: Ningrui Zhou(2024)

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2. Data Analysis: The data analysis phase involves interpreting and deriving meaningful insights from the collected data. Both quantitative and qualitative analysis methods are employed, depending on the characteristics of the data and the research objectives.
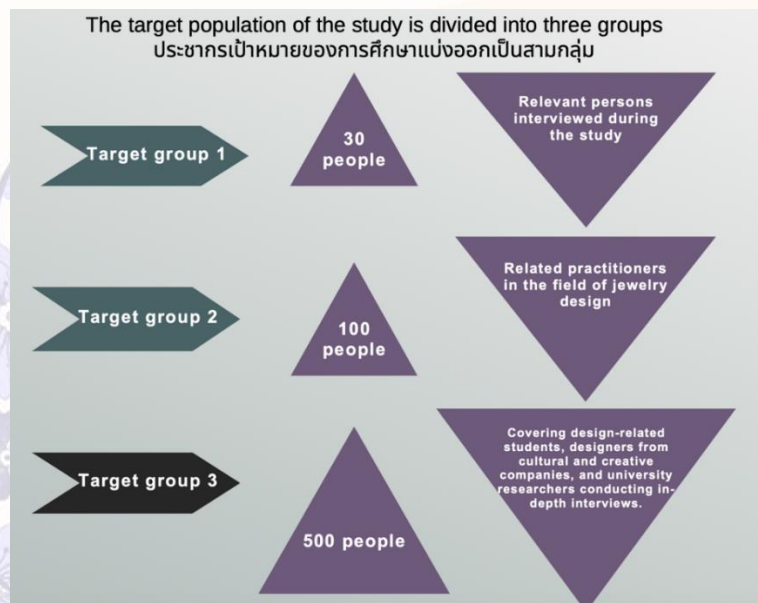
Picture No. 4 Research sampling range
Source: Ningrui Zhou(2024)

Integration of Data: Data from literature reviews, case studies, interviews, and comparative studies are integrated to identify key patterns, trends, and findings. This comprehensive approach allows for a holistic understanding of the integration of Ouroboros symbolism and 3D printing technology in contemporary jewelry design.

Quantitative Analysis: Where applicable, quantitative analysis is utilized to measure and quantify specific aspects of the data. This may include statistical analysis of market trends, consumer preferences, and economic impacts related to Ouroboros inspired jewelry designs.

Qualitative Analysis: Qualitative analysis is employed to explore the subjective aspects of the data, such as the cultural significance of the Ouroboros symbol and the artistic nuances of contemporary jewelry designs. This involves a nuanced interpretation of meanings and themes derived from the collected data.

The comprehensive use of these research methods will enable us to comprehensively and deeply analyze the integration of Ouroboros symbolism and 3D printing technology in contemporary jewelry design, offering practical recommendations and directions for the future development of the jewelry design field.

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Research Results

The exploration into the realm of jewelry design inspired by the Ouroboros symbol yielded insightful findings across various dimensions. Here are the key discoveries derived from the research:

1.   Cultural Significance: The Ouroboros symbol exhibits a remarkable consistency in cultural significance across diverse cultures. It universally represents themes of cyclical renewal, eternity, and the interconnectedness of life.

2.   Symbolism in Different Cultures: Analysis of the Ouroboros in different cultures revealed nuanced interpretations. While some cultures associate it with cosmic cycles and regeneration, others emphasize its role in representing dualities such as life and death or creation and destruction.

3.   Contemporary Jewelry Case Studies: The case studies of contemporary jewelry incorporating the Ouroboros showcased a rich tapestry of design innovation. From intricate metalwork to avantgarde material choices, designers displayed a profound ability to infuse modern aesthetics while respecting the symbol's historical roots.

4.   Innovative Approaches: The analysis of innovative approaches highlighted the versatile nature of Ouroboros incorporation. Designers employed various techniques, such as 3D printing, unconventional materials, and dynamic compositions, pushing the boundaries of traditional jewelry design.

5.   Prototyping and Presentation: Prototypes and samples of jewelry pieces inspired by the Ouroboros symbol successfully translated theoretical concepts into tangible forms. The use of new techniques and materials showcased the potential for groundbreaking designs in the contemporary jewelry landscape.

6.   Impact and Success Evaluation: The impact assessment revealed positive reactions from both the market and society. Ouroboros inspired designs resonated with consumers seeking unique, culturally infused jewelry, contributing to a broader shift in the industry towards embracing innovative narratives.

7.   Broader Societal Implications: Ouroboros inspired designs not only influenced the aesthetics of contemporary jewelry but also sparked discussions about cultural symbols, their reinterpretation, and their role in shaping modern identity. The societal implications extend beyond fashion into cultural discourse and appreciation.

8.   Economic Viability: The economic success of Ouroboros inspired designs was evident through increased market demand. The unique and culturally infused nature of these pieces attracted a niche audience, positioning them as desirable and collectible items.

In essence, the findings underscore the dynamic intersection of tradition and innovation in contemporary jewelry design inspired by the Ouroboros symbol. The universal appeal of the

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symbol, coupled with innovative design approaches, has not only revitalized the jewelry landscape but also contributed to broader conversations about cultural symbolism in modern contexts.

Conclusions

The convergence of contemporary jewelry design, 3D printing technology, and ancient symbolism presents a promising avenue for expanding the horizons of artistic expression. Through the case study of the Ouroboros symbol, this research illustrates the transformative potential of reinterpreting tradition within the context of modern technological advancements. By seamlessly blending historical symbolism with cutting-edge fabrication techniques, designers can create distinctive and meaningful jewelry pieces that resonate with diverse audiences.

The findings of this study underscore the importance of innovation and experimentation in the field of jewelry design. By harnessing the capabilities of 3D printing technology, designers can explore new dimensions of creativity, pushing the boundaries of traditional craftsmanship and unlocking novel design possibilities. Moreover, the incorporation of ancient symbolism adds depth and richness to contemporary jewelry, infusing each piece with cultural significance and narrative depth.

This paper highlights the broader implications of these findings for the jewelry design industry. As designers continue to explore the intersection of tradition, technology, and symbolism, there is a need for ongoing research and exploration to further refine and expand upon these innovative approaches. By addressing challenges and proposing new avenues for exploration, this research contributes to the ongoing evolution of contemporary jewelry design, inspiring future generations of designers to push the boundaries of artistic expression and cultural resonance.

In essence, the marriage of contemporary design sensibilities, advanced technology, and ancient symbolism offers a fertile ground for creativity and innovation in the jewelry design domain. Through continued collaboration, experimentation, and research, designers can continue to create captivating and meaningful jewelry pieces that capture the imagination and inspire awe.
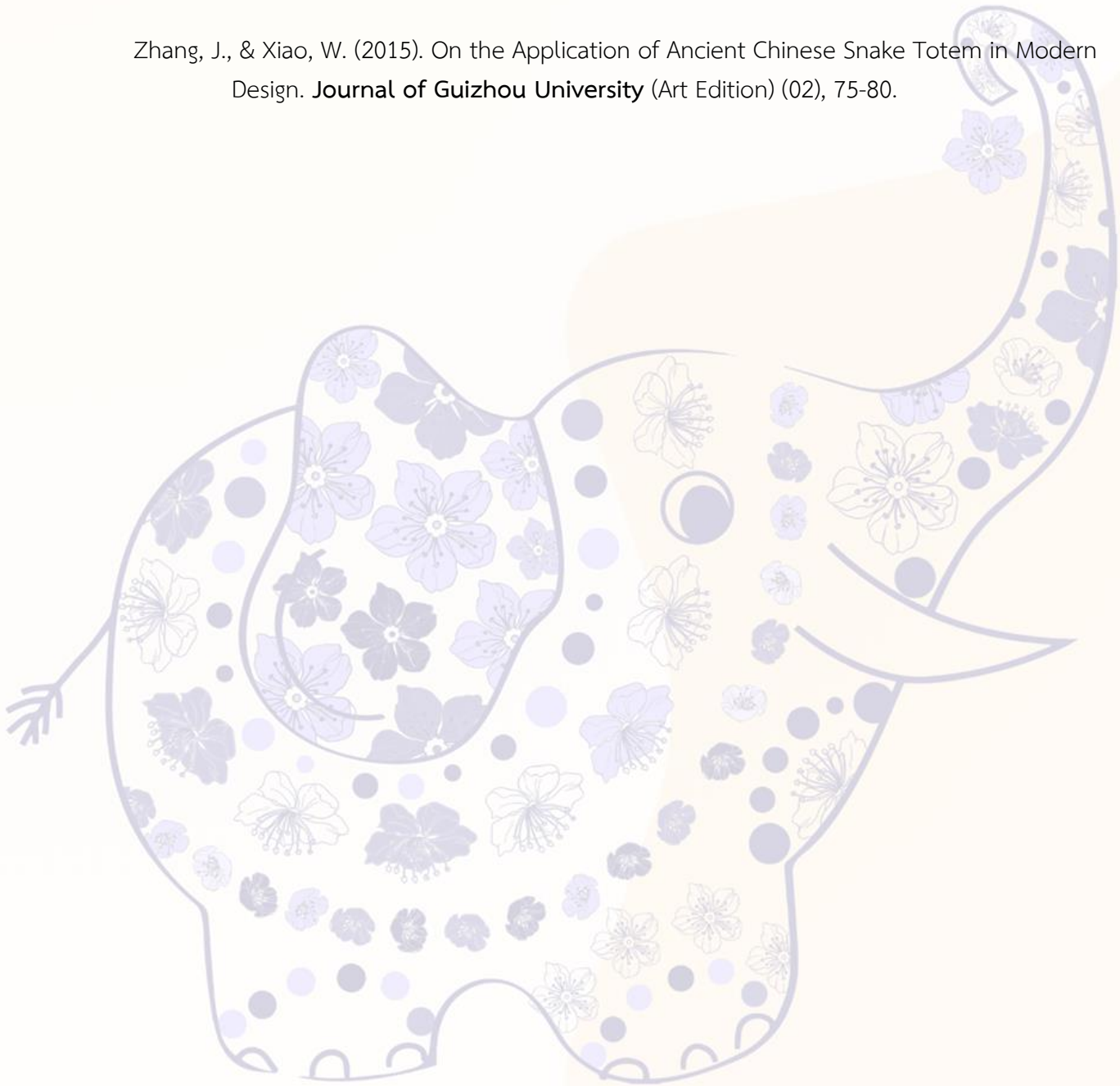
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สวนสถาปัตยกรรมตะวันตกอู๋หู : คู่มือการออกแบบท้องถิ่น
WUHU WESTERN ARCHITECTURE PARK: A GUIDE TO LOCALIZED DESIGN

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ABSTRACT

This study focuses on constructing an urban park in Wuhu, Anhui Province, China, to enhance the city's cultural identity using Western-style architectural elements. It underscores the necessity to research and safeguard culturally significant buildings damaged during urbanization. The research aims to analyze the historical and cultural value of Western-style architecture evolution in Wuhu and develop a local development strategy for incorporating Western-style architectural elements into culturally expressive parks. Utilizing literature analysis, fieldwork, and qualitative research, the study explores integrating Western-style architectural elements into modern urban creative parks in Wuhu City. Additionally, experts' perceptions were assessed through a targeted questionnaire. The findings, presented through drawings, identified three design approaches: 1.Protective segregation: Utilizing ecological green belts to separate protected and new areas within a "Concentric Circle Mode" comprising "Kernel Area," "Buffer Area," and "Surrounding Area." 2. Perception of spatial change: Achieving spatial changes through either drastic shifts or gentle transitions, primarily expressed through thresholds and corridors. 3. Landscape gradual change imitation: Striving for harmony between historic and new places in terms of landscape appearance, prioritizing historical places and adhering to their gradual change in landscape characteristics.
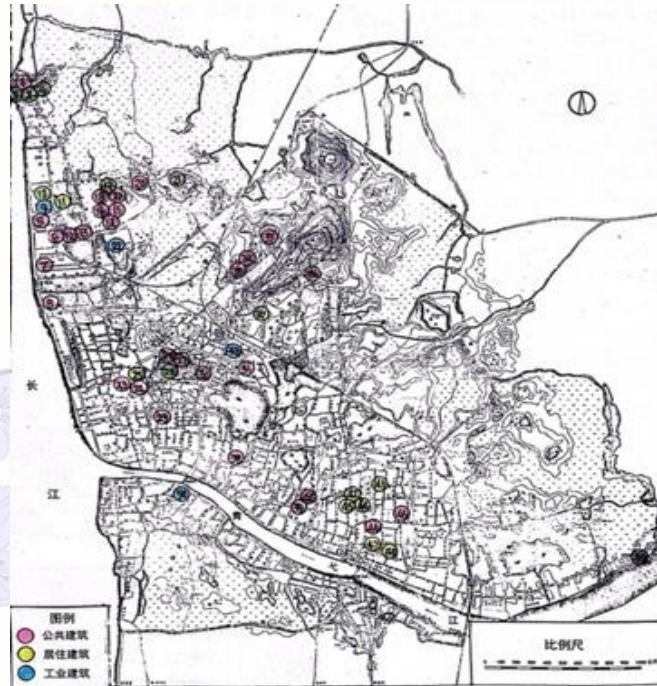
The study also included design evaluations from experts using Cronbach's reliability coefficient. Experts' satisfaction with the integrated design in Wuhu ranged from 3.9 to 5 points, surpassing the theoretical median of 3.51. These results suggest that this study innovatively explores the localized integration of Western-style architectural elements and urban parks in Wuhu, paving the way for new directions in local urban development.

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Keywords： Wuhu, Western architecture, Urban park, Localized design, Cultural identity

Introduction

The focus of the research is to integrate the Western architectural cultural heritage area of the Wuhu region with the Wuhu Urban Park. With the rapid advancement of globalization, Chinese culture is gradually exerting influence and integrating with Western culture. As a carrier of Western culture, Western architecture in China plays a significant role in the process of global cultural integration. In the contemporary historical stage of China, there have been instances of mutual permeation between Chinese and Western cultures due to rapid ideological changes and unstable economic development.

The spatial scope of the research is determined to be located in Wuhu City, Anhui Province, China, primarily encompassing the northern region of Yijiang District and the western and southern regions of Jinghu District. The research period lasted from April 2023 to April 2024. These areas are known for their concentration of modern Western-style buildings, which serve as representative examples reflecting the architectural characteristics of Wuhu during this historical period. The research space includes Western-style buildings within the concession area, traditional buildings constructed in the late Qing Dynasty within the ancient city, as well as Chinese-Western hybrid buildings in the new city. The objectives of this work include capturing detailed interior decoration elements through video recording and analyzing them to form a comprehensive understanding of external architectural styles. Additionally, relevant materials and information regarding individual building units will be obtained by visiting cultural relics departments, related institutions, property rights organizations, housing management agencies, urban construction archives etc., thereby acquiring a series of historical and cultural data pertaining to these structures such as their origins, designers, and builders. By focusing on Wuhu's unique historical and cultural background as its core foundation the research defines the time range for development of modern Western-style architecture from 1876 when Wuhu opened its trade port until 1949 when China was liberated. The research objects mainly consist of religious buildings, schools, hospitals, and other edifices built by missionaries from various countries; their designs reflect how missionaries communicated with residents while integrating into society at large. Through an analysis of these building models' distinctive features, we can gain profound insights into how architecture has served as a conduit for cultural transmission.

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Picture No. 1 (Schematic distribution of modern buildings in Wuhu)
Source: Ge Lisan (2022 : 62)

Research Objectives

1. To research and analysis of the historical background and cultural value of the evolution of Western-style architecture in Wuhu.

2. To formulation of local development strategies and guidelines for the use and development of Western-style architectural elements in Wuhu City through the design of parks that demonstrate the uniqueness of the local culture.

Literature Review

In the literature review of localized design in Wuhu Western-style architectural park, the researchers will focus on the existing research results and practical experiences. Through systematic sorting and analysis, the theoretical framework and methodology of localized design in different cultural contexts, as well as its application and effect in actual projects, will be explored in depth.

1. Cultural and creative parks based on the cultural identity of different cities

The concept of urban creative parks belongs to urban industrial parks, which is a branch of global industrial parks in the stage of transformation and development. As the high-tech industry has become a strategic field in all countries in the world, the type of industrial parks represented by the United States has also gradually developed from the initial manufacturing-based industrial parks to the direction of innovation and entrepreneurship. Influenced by national policies, the development process of industrial parks in China is later than that of western countries. (Chen Xixi. : 2016)

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Table 1 Development process of urban industrial parks in China

Times	Case	Picture	Park type
1978-1990	Guangzhou Economic and Technological Development Zone		Economic development zone
1991-2000	Shanghai Zhangjiang Hi-Tech Industrial Development Zone		National High-Tech Zone
2001-2005	Beijing Zhongguancun Science Park		Innovation and Technology Industrial Park
2006-present	Beijing 798 Creative Park		Innovative and Creative Industrial Park

Source: Di Hu (2024)

2. Western Culture in Wuhu Architecture

After the opening of Wuhu, foreigners constructed a number of Western-style buildings in the Wuhu Concession Area, mostly embassies and consulates, ambassadors' residences, customs offices, tax offices, etc., as well as a series of church-related architectural types, such as Western churches, church schools, hospitals, and personal residences of bishops and priests, etc. In this paper, this group of buildings constructed by foreigners under the auspices of modern Wuhu is collectively called "Western-style buildings". In this paper, the buildings constructed by foreigners under the auspices of Wuhu in modern times are collectively called "Western-style architecture".(Zhang Xiaoxiao, : 2017) The main manifestations were Gothic churches, classical banks and administrative institutions, Spanish-style houses, etc., or a mixture of Greek classical, Roman classical, Renaissance, Baroque and other styles, and artistic components on the same building.

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Picture No. 2 (Wuhu Western Style Architectural Elements)
Source: Di Hu (2023)

Table 2 Category analysis of modern western-style buildings in Wuhu

Form	Building name	Times	Picture	Style
Consulate (Agency) Category	British Consulate in Wuhu	1877-1916		Colonial Architecture
Church Type	Catholic Church	1912-1977		Basilica
School type	St James Secondary School	1879-1906		Gothic
Industrial category	Yixin Flour Mill	1859-1921		Sawtooth plant

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Form	Building name	Times	Picture	Style
Used in PRC as Architecture	Bank of China (BoC)	1895-1922		Modern ethnic forms of Architecture

Source: Di Hu (2024)

From the above table, Wuhu has rich architectural and cultural resources, and these western-style buildings have different styles of western-style architectural elements, and the integration of the above western-style architectural elements can be realised in a variety of ways, depending on the cultural environment in which it is situated and the purpose of the design.

The following are some of the ways that can be used:

(1) Introduction of western architectural style features: add the features of western architectural style, such as classicism, neoclassicism, modernism, etc., to the design. It can draw on the features of western architecture in terms of façade design, structural form and material selection.

(2) Integration of tradition and modernity: Integrate western architectural elements with local traditional architectural styles to create a place with unique style. This integration can be reflected in the appearance of the building, internal space layout, decorative details and so on.

(3) Adopting western architectural design concepts: learning western architectural design concepts and methods, such as proportion, symmetry, streamline design, etc., to enhance the aesthetic effect and quality of the building.

3. An overview of the state of research in Western countries

In the academic fields related to the localization of modern architecture, foreign countries conducted research earlier and formed a profound theoretical research foundation. After the 1960s, modernism was criticized for its separation from local culture, and architectural trends began to diversify. First, contextualism emerged, which believed that architecture should reflect history and culture and be harmoniously integrated into the local environment. Postmodernism entered the historical stage as a revisionary modernist trend of thought. Postmodernist architect Venturi wrote in his book "Learning from Las Vegas" (Brown, S., Venturi, I., & Izenour, S. , : 1972) pointed out that architecture should pay attention to regional context and emphasize local characteristics; architectural critic Charles Jenks clearly stated in the book "Postmodern Architectural Language" that postmodern architecture is

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different from modern architecture. It tends to draw on history and Traditional architecture is based on local architectural styles and appropriately deduced and translated, so as to have strong local characteristics (Jencks, C., & EDITION, R. E., : 1995). However, postmodernism's understanding of local traditional architecture and local architecture only stays on the superficial formal symbols without delving into the deep cultural content behind them. In 1981, A. Zunis and L. Lefebvre criticized the phenomenon of regionalism unilaterally criticizing modern architecture, thus proposing the concept of "critical regionalism". Afterwards, Frampton published the book "Modern Architecture: A Critical History" based on his research on "critical regionalism", in which he summarized six major elements of the profound connotation of this doctrine (Frampton, K, : 2020). Since then, critical regionalism has continued to ferment, and regionalism and modernism are no longer completely opposing concepts.

The research will fuse regionalism and modernism to form regional modernism. Regional modernism aims to preserve and emphasise local characteristics and identity in the process of modernisation, while also combining it with contemporary ideological, technological and aesthetic trends. This combination can be reflected in the incorporation of traditional architectural styles in modern architecture and the preservation and transmission of local characteristics and cultural identity in modern society. Combining critical regionalism and regional modernism requires finding design solutions that suit the needs of contemporary society through innovative thinking and cross-cultural exchange while preserving local cultural characteristics.

4. Sorting out the state of research in China

China is relatively late in carrying out relevant research, and its academic achievements are mainly concentrated in three aspects:

One is the popular science introduction or research interpretation of relevant international theories, such as the book "Modern Architectural Theory" (Liu Xianjue, : 2008) written by Mr. Liu Xianjue, "Contemporary Architectural Design Theory: Exploration of Related Meanings" written by Shen Kening (Shen Kening, : 2009), etc., all have related introductions to theories such as contextualist architectural concepts and postmodernist trends of thought.

The second is the research results obtained based on international theory and related to the specific domestic context. As early as 1998, Mr. Wu Liangyong published the article "Modernization of Vernacular Architecture, Regionalization of Modern Architecture - On the Exploration Path of New Architecture in China" (Wu Liangyong, : 1998), which discussed the dialectical interrelationship between vernacular, regional and modern architecture; Mr. Zou Deyi's "Achievements, Limitations and Prospects of Regional Architecture in China" (Zou Deyi, Liu Conghong, & Zhao Jianbo, : 2002) and Lai Delin's "Regionality: An Issue and Keyword

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as a Resistance Strategy in Chinese Modern Architecture" (Lai Delin, : 2019) systematically and comprehensively explains the development process of relevant domestic theories and practices, and makes certain suggestions and prospects based on the problems that arise.

The third is the research results on specific methods and strategies of localized practice and regional practice. In the article "Local and Modern - Regional Exploration of Urban Characteristics" (Liu Xiang, : 2006), Liu Xiang proposed "local modernization" that highlights urban characteristics by overlapping and unifying the two seemingly opposing concepts of local and modern. Two major strategies of "modern localization"; Pan Yue's "Towards Reconstructing Reflective Architecture: Three Practical Directions of Vernacular Modernity" (Pan Yue, : 2021) is based on the "terroir modernity" proposed by Jean Francois and Sabatino Michelangelo. The concept of "modern" systematically discusses three major strategies for combining modernity with local customs: "picturesque reconstruction", "objective reconstruction" and "regeneration of sense of place".

To sum up, reflecting local culture not only contributes to cultural inheritance and protection, but also promotes social harmony and stability, cultural exchanges and understanding, economic development and artistic innovation, and other positive impacts, and is therefore of great significance and value. In fact, when international architects are involved in the design of engineering projects in China, they also tend to take into account China's national characteristics, regional culture and local features.

Research Methodology

The research used literature analysis, fieldwork and qualitative analysis research methods from literature collection, books, journal articles, related studies, questionnaire method, interview method, observation method and literature review to conduct preliminary research.

1. Literature analysis

The method of literature research is used to analyze the current situation of the integration of Western-style architecture and Chinese environment at home and abroad, and to conduct case studies; the method of field research is used to photograph the current situation of Western-style architectural clusters and the application of Western-style architectural elements in Wuhu City, Anhui Province.

2. Fieldwork

Visiting and observing the areas of Wuhu City, such as Lion Hill, Fanluoshan, the old customs site and other western-style buildings, collecting the design information of more than 20 old western-style buildings, conducting on-site research on the social environment of Wuhu

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City in Anhui Province, the culture of architecture and architectural decoration, folk culture, and the fusion of Chinese and Western cultures Waiting for the on-site photography and video.

3. Qualitative analysis

The researchers invited five experts to interview experts in the field of cultural integration or environmental design research, invited experts to assess the satisfaction of using the cultural integration model, collected five expert questionnaires, and analyzed the data to make an innovative design on how to combine Chinese urban elements with Western architectural design elements. Completion of a design scenario that meets the urban form of Wuhu City, Anhui Province, and satisfies the user groups with a combination of Chinese and Western design elements.
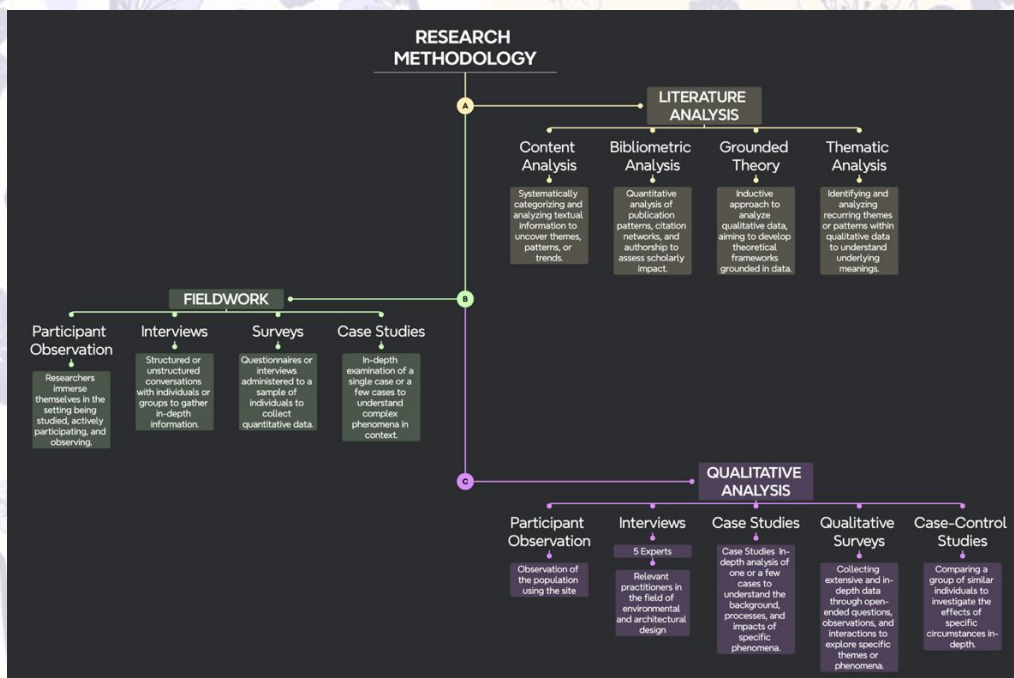
Picture No. 3 (Diagrammatic representation of the Research methodology)
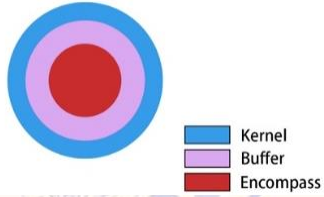**Source:** Di Hu (2024)

Research Results

1. Design process methods

The design of parks attached to historical sites emphasizes the dual characteristics of "historicity" and "locality". The difficulty and focus of the integration design of the Wuhu area's Western-style architectural cultural heritage area and the Wuhu urban experiential park lies in the co-ordination and holistic organization of the place-making and urban experience of the two, and the transitional treatment of the two is very important. This design method is mainly divided into three kinds of methods, namely protective isolation, spatial change perception,

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and landscape gradual change imitation, and the following table gives a detailed description of the three methods:

Table 3 A holistic approach to the design of historic and new places

Method and characteristics	Specific modes of expression	Methods illustrated
Protective segregation: Use of ecological green belts to separate protected and new areas.	"Concentric Circle Mode", which contains "Kernel Area", "Buffer Area" and "Surrounding Area".	Source: Drawn by author (April, 2024)
Perception of spatial change: Spatial changes can be achieved by drastic changes or gentle transitions.	The spatial transition change expression consists mainly of thresholds and corridors.	Source: Drawn by author (April, 2024)
Landscape gradual change imitation: Achieve harmony between historic and new places in terms of landscape appearance.	Should be dominated by the historical places and give priority to obey the gradual change of its landscape characteristics.	Modern antique building group effect diagram Source:https://www.pinterest.jp/pin/274790014758493761/(June, 2022)

Source: Di Hu (2024)

2. Design results

Explore an urban campus design inspired by Western architectural elements. Below are the main parts of the design:

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Picture No. 4 (Side of the park)
Source: Di Hu (2024)

Picture No. 5 (Front of the park)
Source: Di Hu (2024)

3. Design evaluation

The researcher invited five industry experts to measure the design outcomes by completing a questionnaire, and the satisfaction assessment was categorised into five levels (very good = 5 points, good = 4 points, medium = 3 points, low = 2 points, very low = 1 point). The researcher scored by analyzing the mean ($\overline{\mathbf{X}}$). The questionnaire was in the form of a five-point Cronbach's reliability coefficient based around several survey indicators, including the experiential nature of Western elements, design type attributes, stylistic features, innovativeness, culture and experiential value.

The experts evaluated the drawings positively, with the highest rating of 5 and average scores all exceeding 3.51. Among them, the highest average score of 5 was given to the experiential nature of the Western elements, indicating that the content experience part of the design was the most favorably evaluated; the lowest average score of 3.9 was given to the design type attributes, which also exceeded the minimum value of the evaluation criteria, and the average value of all six assessment items exceeded 3.51. All in all, the survey results show that industry experts rate the quality and experience of the design highly overall.

Conclusions

To sum up, in the research process, the researchers take the contact and exchange between Chinese and Western cultures as the base point. Reasonable classification and analysis are carried out in terms of the combination of Western architectural style, local architectural style and Wuhu culture as well as the channels of influence of Western architectural culture on modern architecture in Wuhu and architectural examples of prominent features. It explores the phenomenon of the spread of Western architectural culture in Wuhu, modernism and its influence as well as about the past architectural development of Wuhu, exploring modernism and its embodiment in architecture. In addition, this study chooses the perspective of the

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"ซอฟเพาเวอร์" นวัตกรรมและปัญญาประดิษฐ์สู่การพัฒนาท้องถิ่นเศรษฐกิจสร้างสรรค์และสิ่งแวดล้อมอย่างยั่งยืน

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development of modern Western architectural landscape created by Chinese and Western architects to make the analysis of the thesis more comprehensive, specific and convincing.

Acknowledgement

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