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INTERACTIVE DESIGN IN MUSEUMS: A CASE STUDY OF THE SHAANXI ARCHAEOLOGICAL MUSEUM

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This study investigates the impact of interactive design elements on visitor engagement and learning at the Shaanxi Archaeological Museum, Xi'an, China. Utilizing a qualitative case study approach, the research focuses on movable electronic screens, interactive question boards, touchscreen games, and multi-screen videos. Results indicate that these interactive features significantly enhance visitor experience by facilitating active participation, deepening understanding, and creating immersive educational environments. The study underscores the importance of integrating interactive design in museums to cater to modern audience expectations and promote enriched exploration of cultural heritage.

Key words: Interactive Design, Museums, Visitor Engagement, Educational Experience, Cultural Heritage

INTRODUCTION

The Shaanxi Archaeological Museum, located in the historic city of Xi'an, serves as a testament to the rich cultural and historical legacy of Shaanxi Province, one of China's most significant archaeological regions. Home to a myriad of artifacts spanning from the prehistoric era to the Han Dynasty, the museum offers a comprehensive glimpse into the ancient civilizations that once thrived in this area. This study aims to explore the museum's interactive design elements, which play a crucial role in enhancing visitor engagement and providing an immersive educational experience. By examining these innovative features, this paper seeks to shed light on the importance of interactive design in modern museums and its impact on the interpretation and appreciation of cultural heritage [1].

PURPOSE

The purpose of this study is to explore the impact of interactive design elements on visitor engagement and learning in the Shaanxi Archaeological Museum. Utilizing a case study approach, this research focuses on a qualitative examination of specific interactive designs, including movable electronic screens, interactive question boards, touchscreen games, and multi-screen videos.

Information about these designs was gathered through observation and analysis of available museum documentation. The analysis aimed to understand the contribution of each interactive element to the overall visitor experience, with a particular emphasis on how they enhance engagement and facilitate learning.



By examining these interactive designs in a real-world setting, the study seeks to provide insights into the effectiveness of interactive elements in museums and their potential to create more engaging and educational environments for visitors [2].

RESULTS AND DISCUSSION

In the Shaanxi Archaeological Museum, various interactive design elements are employed to enhance the visitor experience and educational impact. The analysis of these interactive features reveals their effectiveness in engaging visitors and facilitating learning.



Fig.1. Information on Archaeological Projects in Urbanization Construction

Movable Electronic Screens: Placed over a large map, these screens allow visitors to push and pull the screen to reveal detailed information about specific areas of the map. This interactive element not only enriches the content displayed on the static map but also strengthens visitors' understanding and memory of the information presented (Fig.1).



Fig.2. Knowledge Links: Oracle Bone Script Recognition



Interactive Question Boards: These boards engage visitors by posing questions that they can answer by flipping the board or moving components to reveal the correct answer. This hands-on approach deepens the learning impression and has significant educational value, as it involves visitors actively in the acquisition of knowledge (Fig.2).

Touchscreen Games: Interactive games present information about exhibits, helping visitors learn about their different classifications and uses. By engaging in these games, visitors can gain a deeper understanding of the exhibits in an enjoyable and interactive manner (Fig.3).



Fig.3. Interactive Game on the Attire of Noble Women in Liangdai Village During the Eastern Zhou Dynasty of the Rui State

Multi-Screen Videos: Screens are arranged on five sides (top, bottom, left, right, and front) to form a box-like shape without a "lid" (back side), allowing visitors to watch from the open side. This immersive video experience creates a more realistic viewing experience, giving visitors the sensation of being in the midst of the action (Fig.4).



Fig.4. Panoramic Video Displayed Through Multi-Screen Splicing



The interactive designs in the Shaanxi Archaeological Museum successfully combine technology with education, creating an engaging environment that encourages visitor participation and enhances the learning experience. These designs demonstrate the potential of interactive elements in museums to not only display information but also to create memorable and meaningful experiences for visitors [3].

CONCLUSIONS

The Shaanxi Archaeological Museum's integration of interactive design elements significantly enhances the visitor experience and facilitates educational engagement. This study's examination of movable electronic screens, interactive question boards, touchscreen games, and multi-screen videos demonstrates the potential of interactive design in creating immersive and informative museum environments. These elements not only present information in an engaging manner but also encourage active participation and deeper understanding among visitors. The findings highlight the importance of incorporating interactive features in museum exhibits to cater to the evolving expectations of modern audiences. As museums continue to adapt to technological advancements, the role of interactive design in shaping educational and memorable experiences will undoubtedly grow in significance.

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ІНТЕРАКТИВНИЙ ДИЗАЙН У МУЗЕЯХ: ПРИКЛАД АРХЕОЛОГІЧНОГО МУЗЕЮ ШЕНЬСІ

Досліджується вплив елементів інтерактивного дизайну на залучення та навчання відвідувачів в Археологічному музеї Шеньсі, Сіань, Китай. Використовуючи підхід якісного тематичного дослідження, робота зосереджується на рухомих електронних екранах, інтерактивних дошках, сенсорних іграх і мультіекранному відео. Результати показують, що ці інтерактивні функції значно покращують досвід відвідувачів, сприяючи активній участі, поглиблюючи розуміння та створюючи захоплююче освітнє середовище. Дослідження підкреслює важливість інтеграції інтерактивного дизайну в музеях, щоб задовольнити очікування сучасної аудиторії та сприяти збагаченому дослідженню культурної спадщини.

Ключові слова: інтерактивний дизайн, музеї, залучення відвідувачів, освітній досвід, культурна спадщина