

# Improving Usability Services and User Experience of Online Museum Virtual Exhibition with TRIZ Theory

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**Abstract.** This study explores users' perceptions of a digital museum's online virtual exhibition. A survey and interviews have been conducted to collect data on user opinion and the ultimate objective was to determine what users think of the museum's online virtual exhibition services and what suggestions they provide for improvement and personalization. TRIZ theory contradiction matrix method was used to modify and improve the usability services and user experience of the Shaanxi History Museum's "World Heritage Photography Art Exhibition" virtual exhibition by analyzing data and identifying problems from a user-centered perspective. The results of this study recommend five TRIZ principles for the development of conceptual solutions for increased user engagement, improved usability services, and better user experience for the museum's online virtual exhibitions. These findings suggest that the successful application of TRIZ theory can enhance user experience as it helps to solve complex problems in an organized and systematic way.

**Keywords:** Usability Services, TRIZ Theory, TRIZ Contradiction Matrix Method, Virtual Exhibition, User Experience