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# Exploring Augmented Reality Applications for UNESCO World Heritage Sites in Greece: Addressing Purpose, Scenarios, Platforms, and Visitor Impact

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**Abstract :** Augmented Reality (AR) technology has become integral in enhancing visitor experiences at Greece's UNESCO World Heritage Sites. This research meticulously investigates various facets of AR applications/games associated with these revered sites. The cultural heritage represents the identity of each nation in the world. Technology can breathe life into this identity. Through Augmented Reality (AR), individuals can travel back in time, visit places they cannot access in real life, discover the history of these places, and live unique experiences. The study examines the objectives and intended goals behind the development and deployment of each augmented reality application/game pertaining to the UNESCO World Heritage Sites in Greece. It thoroughly analyzes the scenarios presented within these AR games/applications, examining how historical narratives, interactive elements, and cultural context are incorporated to engage users. Furthermore, the research identifies and assesses the technological platforms utilized for the development and implementation of these AR experiences, encompassing mobile devices, AR headsets, or specific software frameworks. It classifies and examines the types of augmented reality employed within these applications/games, including marker-based, markerless, location-based, or immersive AR experiences. Evaluation of the benefits accrued by visitors engaging with these AR applications/games, such as enhanced learning experiences, improved cultural understanding, and heightened engagement with the heritage sites, forms a crucial aspect of this study. Additionally, the research scrutinizes potential drawbacks or limitations associated with the AR applications/games, considering technological barriers, user accessibility issues, or constraints affecting user experience. By thoroughly investigating these pivotal aspects, this research aims to provide a comprehensive overview and analysis of the landscape of augmented reality applications/games linked to the UNESCO World Heritage Sites in Greece. The findings seek to contribute nuanced insights into the effectiveness, challenges, and opportunities associated with leveraging AR technology for heritage site preservation, visitor engagement, and cultural enrichment.

**Keywords :** augmented reality, AR applications, UNESCO sites, cultural heritage, Greece, visitor engagement, historical narratives
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