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Event Decoration with AR

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Abstract- Augmented Reality (AR) technology has emerged as a transformative tool in various industries, offering immersive and interactive experiences. In the context of event decoration, AR presents a promising avenue for enhancing creativity, engagement, and customization. This research paper explores the application of AR in event decoration, aiming to revolutionize the traditional methods of designing and visualizing event spaces.

Index Terms- Augmented Reality, Event Decoration, Immersive Experiences, Technology Integration, User Engagement, Event Management.

I. INTRODUCTION

The study begins with an overview of AR technology, highlighting its capabilities in overlaying virtual objects onto the real world and enabling real-time interactions. It delves into the benefits of using AR in event decoration

The technical aspects of implementing AR solutions for event decoration, including the development of AR applications, integration with existing event planning software, and compatibility with AR-enabled devices.

It investigates the potential benefits of using AR in event decoration, such as real-time visualization of decor elements, virtual walkthroughs for clients, and dynamic customization options.

Furthermore, the research examines the impact of AR-enhanced event decoration on user experience, client satisfaction, and overall event success. It explores case studies and practical implementations of AR in different types of events, ranging from weddings and corporate gatherings to exhibitions and trade shows.

The findings of this research contribute to the growing body of knowledge in AR technology applications and event management practices. The insights gained from this study can guide event planners, decorators, and technology developers in leveraging AR effectively to create memorable and immersive event experiences.

Important Modules

Visualizing Decor Concepts

AR allows event planners and decorators to visualize decor concepts in a virtual space, facilitating better planning, experimentation with designs, and client consultations.

Interactive Design Processes

AR enables interactive design processes where users can place, move, resize, and customize virtual decor elements, fostering creativity and customization.

Client Experience

AR enhances the client experience by offering virtual walkthroughs of event spaces, showcasing decor setups in real-time, and providing a preview of the final event look.

Engagement and Marketing

AR-powered event decoration attracts attention, engages attendees, and serves as a marketing tool to promote events through innovative and memorable experiences.

The case studies and examples of AR applications in various types of events, such as weddings, corporate events, exhibitions, and trade shows. It analyzes the impact of AR-enhanced event decoration on user perception, satisfaction levels, and event outcomes, considering factors like:

- User interaction with AR decor interfaces.
- Ease of use and accessibility of AR tools for decorators and event planners.
- Integration of AR with existing event planning software and workflows.
- Technical considerations such as AR device compatibility, performance optimization, and real-time rendering.
- Furthermore, the research discusses challenges and considerations in implementing AR for event decoration, such as:
- Technical complexities in developing AR applications for diverse platforms (mobile devices, AR glasses, web-based AR).
- Designing intuitive AR interfaces that cater to both technical and non-technical users.

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- Cost implications, training requirements, and scalability of AR solutions for large-scale events.

II. RELATED WORK

1. AR Furniture Arrangement System
A tracking service is proposed in AR furniture layout, which can improve the user's understanding of the room layout. It has wide-angle head-ounted display (HMD)

(Oculus Rift DK1), stereo camera (Ovrvision), RGBD camera(Asus They are allowed to modify and manage the site as they see fit. Finally, they deployed video monitoring headsets and used game controllers to place furniture on stage. This process was repeated for four different parts. Finally, subjects were asked to fill out a 5-point Likert scale based on the ease of understanding the process from various perspectives.

2. The Design AR System
The Design AR system is a projection-based portable pan-tilt system designed specifically for interior model design. With Design AR, users can collect spatial data to create 3D maps. Design AR provides the best graphics and effects from analysis can offer users a variety of interior design options. Users can bring the interior design directly into the projection area from the user interface or even from mobile devices. In order to verify the applicability of the Design AR system, all fourteen main points were established and then feasibility evaluation results were obtained from the mentioned cases. Based on the usability test results, it is clear that connecting DesignAR to mobile devices can increase the system's usability.

3. 3D Garment Digitization for Virtual Wardrobe
In 3D garment digitization for virtual wardrobe the use of garment digitalization must be effective and powerful to reduce the cost of producing large quantities of clothing produced each season. In addition, for VR/AR applications where clothing models are used, such as digital clothing or virtual dressing rooms, the quality of the texture map must be high in order to provide a better experience to the users. To solve this problem, we introduce a new product line that enables rapid, low-cost and robust 3D garment digitization with minimal human intervention. The proposed system only requires a commercial RGB-D sensor (e.g., Kinect) and a rotating platform where the human model is placed on the target garment. Since traditional reconstruction pipelines such as Kinect Fusion (KF) generally cannot follow the camera created by fast rotation, we model the camera movement and use it as input to the ICP pipeline in KF. The system is also designed to create a beautiful image by stitching the best looks of a rotation, and the improved silhouette algorithm is designed to extract clothing patterns from people's body structure.

4. In-CAR Gaming: Exploring the use of AR headsets to Leverage Passenger Travel Environments for Mixed Reality Gameplay
Autonomous vehicles provide passengers with a rich augmented reality entertainment platform, and their advanced sensing capabilities will enhance passengers by tracking, matching and modifying reality content. This article provides early research on car AR games, starting from how existing game modes can work in an AR car environment, how they can integrate the real world (such as other cars) into the game, and how they can change the context associated with game events. Actual symptoms (like cracks in car windows). We discuss results of a focus group to explore the initial AR game prototype, as well as an informal in-car test of a model inspired by the focus group. Overall, we found that participants enjoyed using AR games in the car, noting the positive impact of integrating the real world into the game and feeling that it improved their journey. We consider how future AR travelers can use the existing experience and environment to create a reality-based interactive game.

5. The application of Augmented Reality in Interior Design Education
This study is about the use of augmented reality (AR) in interior design education. AR has become a research technology in many fields, education is one of them; It is also frequently used in engineering, architecture and interior sciences. It is important for interior designers to be able to think and see projects in three dimensions. The aim of this study is to analyze the impact of using AR in the design process to find the best spatial planning according to: understanding of 3D and 2D space, visualization and analysis of the given location and AR in mobile environments. In this study, a group of interior architecture students attending classes in the third and fourth grades of Arel University were selected. These 10 students, who were familiar with our traditional learning methods, wanted to use AR in their next project to create a unique environment that they could not physically access. Students are assigned to design the space according to computer-aided modeling (CAD) instructions and measurements and begin construction using augmented reality on their phones when necessary. After these are done, information is obtained from the survey. This research includes students' feedback on learning, whether AR is useful in the design process, whether students encounter problems with it, determining the level of methods they prefer to use AR, and whether learning is beneficial. This study aims to contribute to the understanding of the advancement of augmented reality (AR) in design.

III. PROBLEM STATEMENT

In the current scenario event managers or event planners suggest there own decoration ideas by showing images of decoration they have created in past events to users. But now

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by using this platform user can create own decoration ani they can suggest event planner that what user want exactly in background decoration.

Block Diagram

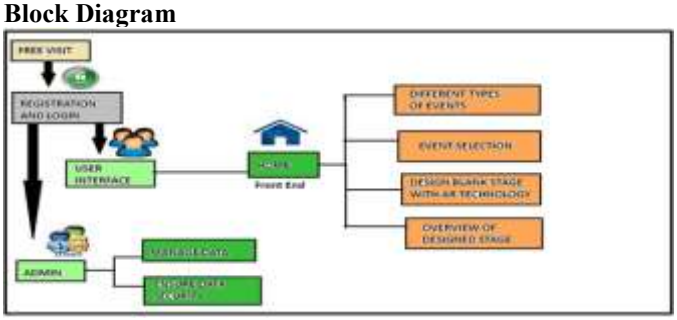

Figure 1: Block Diagram

IV. IMPLEMENTATION

Figure 2: Home Page

Figure 3: Decorating stage using webcam white background

Decorating Blank Stage

Figure 4: Decorating stage using webcam

Decorating Stage Using Webcam

Figure 5: Decorating blank Stage with web cam

Figure 6: Decorating blank Stage with web cam

Figure 7: Decorating blank Stage without webcam

V. CONCLUSION

The paper concludes with insights into the future of AR in event decoration, including advancements in AR technology, potential integration with AI and for smart event experiences, and opportunities for industry collaboration and innovation.

It emphasizes the transformative potential of AR in elevating event design, fostering creativity, and delivering memorable experiences for stakeholders in the event industry.

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