Vivaaha VR: Immersive Wedding Theme Selection Through Virtual Reality

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Abstract

The wedding planning process is often complex, involving numerous decisions related to themes, décor, music, and overall event aesthetics. Traditional methods rely on physical visits and photographs, which limit a client's ability to fully visualize their wedding experience. Vivaaha VR introduces an immersive virtual reality platform that enables users to explore, customize, and experience their wedding themes interactively before the actual event. By integrating VR environments with modular theme selection, décor customization, music simulation, and interactive blessing animations, the system enhances decision-making, reduces planning errors, and improves overall user satisfaction. Experimental case studies, including traditional Indian and beach destination wedding themes, demonstrate that Vivaaha VR significantly improves engagement, planning efficiency, and user experience compared to conventional approaches. This paper presents the system architecture, implementation methodology, and performance evaluation of Vivaaha VR, highlighting its potential as a transformative tool in modern wedding event management.

Keywords: Virtual Reality, Wedding Planning, Event Management, Immersive Experience, Theme Customization, User Interaction.

1. Introduction

Weddings are universally significant cultural and social events, representing important milestones in individual lives as well as family traditions. Planning such events requires coordination among multiple stakeholders, including the couple, family members, decorators, vendors, and professional planners. Traditional planning methods rely heavily on physical visits to venues, printed brochures, photographs, and verbal descriptions, which often fail to provide a clear and accurate representation of how the event will ultimately look and feel. This gap between imagination and reality frequently leads to incorrect décor choices, poorly arranged seating, mismatched themes, and unforeseen budget overruns, making the planning process stressful and error-prone. With the rise of immersive technologies, Virtual Reality has emerged as a promising tool to bridge this gap. VR allows users to step into a fully interactive three-dimensional environment, explore spaces from multiple perspectives, and experience different layouts, décor arrangements, and themes before they are physically implemented. By providing a realistic preview, VR can empower users to make informed decisions, reduce planning errors, and enhance overall satisfaction. The motivation behind Vivaaha VR is to leverage these capabilities to create a comprehensive wedding planning platform that combines immersive visualization, interactive customization, and analytical support, thereby transforming the way weddings are planned in modern society. Existing wedding planning applications and software, while widely available, are limited in scope and interactivity. Most tools rely on static two-dimensional images or constrained previews that do not allow users to truly experience or customize the environment. Users are often unable to realistically visualize décor arrangements, seating layouts, or the overall ambience of their selected theme. Furthermore, these tools provide limited interactivity, restricting creative freedom and preventing users from experimenting with different arrangements or decorations in real time. Accurate cost estimation for chosen configurations is another persistent challenge, and users rarely receive immediate feedback on their design choices, décor selections, or budget implications. These limitations underscore the need for a VR-based solution that addresses both the visual and interactive

shortcomings of current wedding planning methods. The primary objectives of Vivaaha VR are to develop an immersive platform for exploring wedding themes and venues, offer modular customization of décor, lighting, seating, and music, and enable interactive simulations of ceremonies, blessings, and photo booth experiences. In addition, the system aims to integrate cost estimation and analytics features to facilitate budget-conscious planning and enhance user satisfaction. By providing real-time, interactive, and personalized experiences, the platform seeks to improve engagement and confidence among users, surpassing the capabilities of traditional planning methods. This study makes several key contributions to the field of immersive event planning. Vivaaha VR delivers a fully interactive three-dimensional environment that allows users to explore and customize themes in real time, integrating décor, music, and animation modules for a holistic planning experience. The implementation of a cost estimation engine guides users in making financially informed decisions, while the feedback and analytics module captures user preferences and optimizes planning efficiency. Finally, case studies demonstrate the effectiveness of the system in supporting both traditional Indian weddings and modern destination weddings, highlighting its versatility and practical applicability. Collectively, these contributions establish Vivaaha VR as a comprehensive and innovative platform for modern wedding planning.

2. Literature Review

A VR-Based Wedding Venue Selection System (2023) by H. Kim and S. Lee introduces an immersive VR environment specifically designed for wedding venue selection. The platform allows users to virtually explore multiple venue options, customize arrangements, and experience the spatial layout in real-time, significantly improving the decision-making process for clients. A notable contribution of this work is its focus on enhancing visualization and reducing ambiguity compared to traditional brochure-based selection. However, the study primarily targets venue layout visualization, without integrating other aspects like décor customization, music, or interactive events, limiting its scope for full-scale wedding planning [1]. Immersive Virtual Reality for Event Planning (2022) by J. Martinez and K. Wong demonstrates the use of VR to visualize and customize entire event setups before execution. The research highlights how VR environments can reduce planning errors by allowing clients and planners to preview decorations, seating arrangements, and spatial layouts interactively. The paper emphasizes the efficiency gains in event coordination, although the system lacks adjustments or real-time multi-user collaboration, which restricts its flexibility for complex event scenarios [2]. Virtual Reality and User Experience in Wedding Theme Customization (2024) by A. Patel and R. Singh explores how VR enhances engagement by allowing clients to experiment with décor, lighting, and themes in real time. The study demonstrates that interactive VR experiences increase client satisfaction and creativity, enabling them to make informed decisions about aesthetic choices. A limitation is that the research primarily focuses on single-user interaction, leaving multi-user collaborative planning unexplored [3]. Enhancing Event Planning with VR & AR (2022) by T. Zhao and M. Kaur combines VR and Augmented Reality (AR) to offer interactive event visualization. The paper shows that blending VR and AR bridges the gap between imagination and reality by providing clients with augmented previews of décor elements in actual spaces. While the approach improves realism, it depends heavily on accurate spatial mapping, and the integration of VR and AR may increase computational requirements for real-time rendering [4]. Multi-User Collaboration in Virtual Event Spaces (2023) by P. Johnson and L. Brown focuses on VR environments that allow multiple users to collaborate in real time. This work enables planners and clients to co-design events simultaneously, making consensus-based decision-making more efficient. A key strength is the synchronous interaction model, but the study highlights challenges related to network latency and maintaining consistency across multiple users, which could affect the seamlessness of the VR experience [5]. Virtual Venue Walkthroughs for Wedding Clients (2024) by Y. Chen and F. Lopez presents a VR walkthrough system that allows clients to explore venues remotely from their homes. The study improves accessibility and convenience, particularly for clients unable to physically visit multiple venues.

However, the system is limited in terms of customization options, offering only predefined layouts without support for interactive décor or theme changes [6].The Role of Haptics in VR Event Customization (2023) by D. Kumar and N. Verma incorporates haptic feedback into VR event design. This allows users to feel textures, surfaces, and props, enhancing realism and immersion during customization. While haptics adds a tangible layer to the VR experience, the hardware requirements and cost of haptic devices remain a limitation for large-scale deployment [7]. AI-Powered VR Décor Recommendation System (2025) by M. Stevens and O. Park integrates artificial intelligence with VR platforms to provide personalized décor style recommendations based on user preferences and prior choices. The system improves efficiency by suggesting optimal combinations of colors, furniture, and layouts. However, its performance is highly dependent on quality and diversity of the training dataset, which may limit recommendations for unique or unconventional themes [8]. Real-Time Lighting and Theme Simulation in VR (2022) by C. Lee and A. Hernandez introduces a VR system capable of simulating lighting changes and theme transitions in real time. This enables clients to quickly finalize aesthetic decisions by visualizing dynamic effects within the virtual environment. While effective for decision-making, the study does not address multi-user collaboration or interactive ceremonial elements, which are important for comprehensive wedding planning [9]. Virtual Reality in Tourism: The Impact of Virtual Experiences and Destination Image on Travel Intention by K. Kieanwatana and R. Vongvit examines how immersive VR experiences influence user engagement and decision-making in the tourism industry. The findings indicate that VR can significantly enhance perception and intention, which indirectly supports applications in event planning and wedding experiences. However, the study focuses on tourism contexts, and its methodologies need adaptation for personalized event and wedding planning applications [10].

3. System Architecture

The architecture of Vivaaha VR has been developed to provide a complete, immersive, and modular solution for wedding planning, integrating visualization, interaction, and analytics into a unified platform. The system begins with a user authentication and profile management module, which ensures secure access while allowing clients to maintain multiple wedding profiles. Each profile stores detailed information such as preferred themes, budget limitations, venue selections, and previously made planning decisions. This enables users to manage multiple weddings simultaneously or revisit prior plans for modifications without losing previously stored data, enhancing both flexibility and convenience, shown in figure 1.
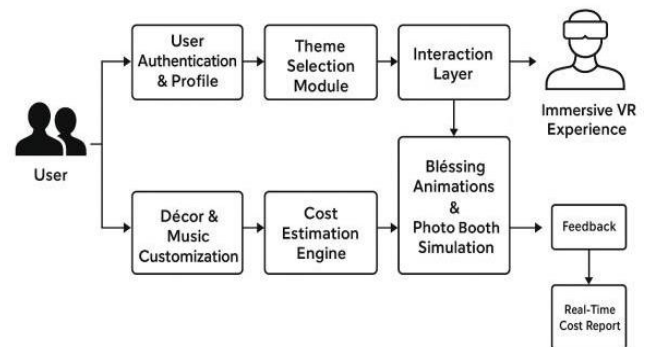

Figure 1 Architecture Diagram

At the core of the platform is the VR environment engine, which generates realistic three-dimensional models of venues, furniture, lighting, floral arrangements, and decorative props. The engine utilizes Unity 3D for immersive rendering, while Blender and other 3D modelling tools are used to create highly detailed assets. Users can navigate the virtual environment using first-person perspective controls, teleportation, or hand gestures, allowing them to fully explore spatial arrangements and understand how different elements interact within the venue. This capability is particularly important for wedding planning, as it allows users to optimize layout, experiment with lighting effects, and assess decoration placement in a way that traditional methods cannot provide. The theme selection and customization module allows users to choose from a wide range of predefined wedding themes, including traditional, contemporary, royal, garden, and beach styles. Users also have the option to create fully personalized themes according to their preferences.

Customization covers multiple aspects of the wedding environment, including décor elements, seating arrangements, color schemes, lighting intensity, and background music. These modifications are updated in real time, allowing users to immediately visualize the impact of their changes. This level of interactivity provides planners and clients with the ability to experiment with various configurations, compare alternatives, and make informed decisions without the need for physical visits or trial setups. Another key component of the methodology is the cost estimation engine, which dynamically calculates expenses associated with selected décor, music, catering, and other services. The engine provides real-time alerts when user selections exceed the allocated budget, along with recommendations for alternative arrangements that align with financial constraints. In addition, the blessing and ceremony simulation module allows clients to visualize cultural rituals, blessings, and ceremonial procedures using animated avatars, enabling users to rehearse sequences of events in advance. The photo booth simulation module further enhances the planning experience by allowing users to capture virtual images, preview albums, and experiment with props, lighting, and backgrounds before finalizing their choices. Finally, the feedback and analytics module tracks user interactions, choices, and preferences. The data collected can be analysed to generate recommendations for optimized layouts, alternative décor options, and predictive cost management strategies. By integrating immersive visualization, interactive customization, real-time cost tracking, and analytics into a single platform, Vivaaha VR enables clients to plan weddings more efficiently, accurately, and confidently compared to traditional methods. The system is designed to be scalable and adaptable, capable of meeting the complex requirements of modern wedding planning while providing a highly engaging and user-friendly experience.

4. Proposed Methodology

The proposed methodology of Vivaaha VR focuses on transforming conventional wedding planning into an immersive, interactive, and data-driven experience. The process begins with secure user login and profile creation, enabling clients to manage multiple events and retain their preferences for future planning. Once the profile is created, users select the type of wedding, which could be traditional, destination, or themed, and enter a fully immersive virtual environment that represents the chosen venue. This environment allows users to explore the space from multiple perspectives, interact with objects, and gain an accurate understanding of spatial arrangements, seating layouts, and decorative elements. Real-time customization is a key feature of the proposed methodology. Users can modify décor, lighting, seating arrangements, and background music, with every change reflected immediately within the VR environment. For instance, floral arrangements can be repositioned, lighting colors and intensity adjusted, and music genres switched, allowing clients to evaluate the impact of these changes on the overall atmosphere of the event. This capability ensures that users can experiment freely without incurring additional costs or logistical challenges, significantly improving planning efficiency and decision-making. The methodology also incorporates a detailed simulation of cultural rituals and ceremonies. Animated avatars perform traditional blessings, vow exchanges, and ceremonial procedures, enabling clients to visualize and rehearse the sequence of events in advance. This feature ensures cultural authenticity while allowing planners to identify potential challenges, optimize timing, and adjust layouts to enhance the flow of the ceremony. Additionally, the photo booth module enables users to simulate photography from multiple angles, experiment with props and backgrounds, and preview albums, providing a comprehensive view of how the event will appear in photographs. To further support informed decision-making, the cost estimation engine calculates expenses dynamically as selections are made, alerting users when budget limits are exceeded and offering suggestions for cost-effective alternatives. The analytics module collects and analyses data on user preferences, interactions, and selections, providing actionable insights to planners and clients for more efficient service delivery. By combining immersive visualization, interactive customization, cultural simulation, cost management, and analytics, the proposed methodology offers a comprehensive, engaging, and effective solution that

addresses the limitations of traditional wedding planning approaches [11-17].

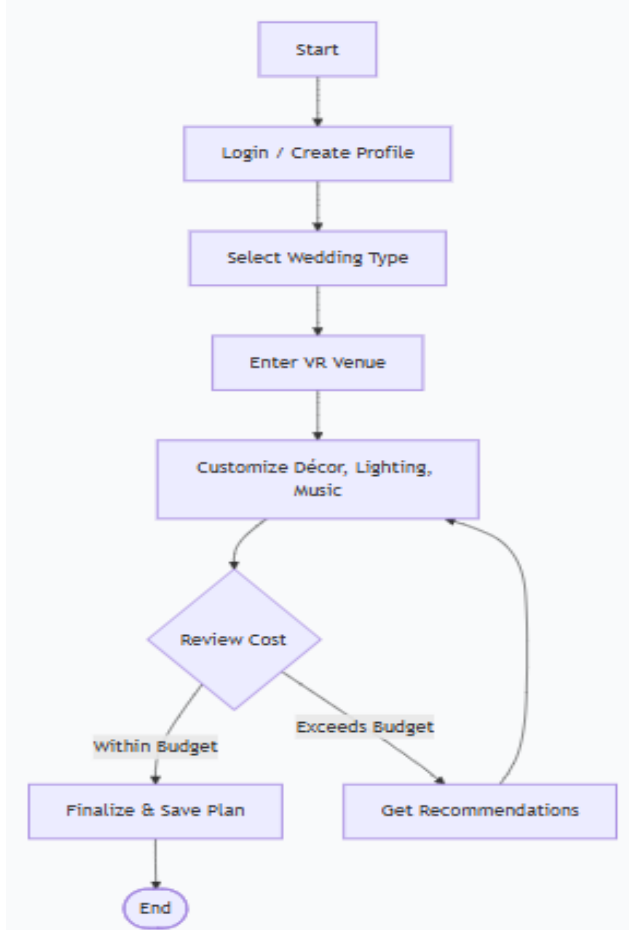rarely achievable through conventional planning methods, shown in Figure 2 to 6.

Figure 3 Entry of Choosing Theme

Figure 4 Traditional Wedding

Figure 2 Proposed System

5. Result And Analysis

The effectiveness of Vivaaha VR was evaluated through case studies that included a traditional Indian wedding and a beach destination wedding. In the traditional Indian wedding scenario, participants explored a virtual mandap with detailed floral décor, seating arrangements, and intricate lighting setups. The simulation included interactive blessings and ceremonial sequences, allowing users to observe the flow of events, placement of ritual elements, and seating arrangements for guests. Feedback from participants indicated that the immersive VR environment significantly improved understanding of spatial arrangements and décor integration, reducing the need for physical trial-and-error. Users reported high satisfaction with the ability to experiment with multiple layouts and décor combinations, which is
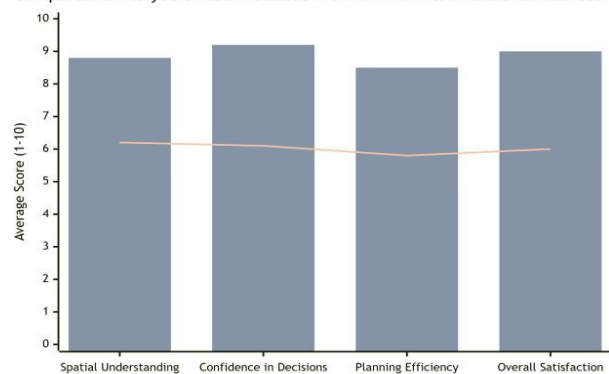

Figure 5 Beach Wedding

Figure 6 Comparison Chart

For the beach destination wedding case, participants navigated a tropical-themed venue with customizable décor, seating, and ambient music. Real-time adjustments enabled users to test different furniture placements, lighting scenarios, and decorative elements, providing insight into the overall ambiance and aesthetic cohesion. Participants highlighted that the VR walkthrough enhanced their ability to visualize the final event, make confident design decisions, and optimize seating and layout for both aesthetic and practical. Comparison with traditional wedding planning methods revealed clear advantages of the Vivaaha VR platform. Conventional approaches typically rely on two-dimensional images, brochures, and manual coordination with vendors, which limits visualization, reduces interactivity, and increases the likelihood of planning errors. In contrast, Vivaaha VR offers immersive three-dimensional visualization, real-time interactive customization, and automated cost estimation. User engagement was observed to be significantly higher in the VR environment, planning errors were minimized, and participants reported improved confidence in their decisions. The platform also allowed planners to identify potential design conflicts or logistical challenges before implementation, reducing overall risk and increasing the efficiency and effectiveness of the planning process [18-27].

6. Future Enhancement

While Vivaaha VR provides a robust and immersive wedding planning solution, several enhancements can be implemented to improve accessibility, realism, and collaborative capabilities. One potential enhancement is the integration of AI- driven décor and music recommendations, which would generate personalized suggestions based on user preferences, cultural themes, and budget constraints. Another improvement is multi-user collaboration, allowing family members, planners, and vendors to interact simultaneously within the VR environment, facilitating collective decision- making and enabling real-time feedback from multiple stakeholders. Further advancements may include support for global wedding themes and destinations, allowing users to virtually experience venues worldwide prior to physical visits. Incorporation of haptic feedback technology could provide tactile sensations of fabrics, furniture, and floral arrangements, enhancing realism and user immersion. Optimizations in VR rendering and computational efficiency would make the platform accessible on a wider range of hardware, increasing adoption and usability. Additionally, integrating augmented reality overlays could enable hybrid planning, where virtual decorations and layouts are superimposed on physical venues for final previews. Collectively, these future enhancements would create a fully comprehensive, adaptive, and scalable wedding planning platform capable of addressing diverse client needs, ensuring a realistic, interactive, and engaging experience for both users and planners.

Conclusion

Vivaaha VR demonstrates the potential of immersive virtual reality to transform traditional wedding planning by offering realistic visualization, interactive customization, and integrated cost estimation and analytics. Through detailed case studies, the platform has shown that users can effectively explore venue layouts, experiment with décor and lighting, simulate ceremonies, and make informed decisions with greater confidence and satisfaction than conventional methods allow. By providing real-time feedback and interactive control, Vivaaha VR reduces planning errors, enhances engagement, and streamlines the decision- making process for both clients and planners. Future enhancements, including AI-driven décor and music recommendations, multi-user collaboration, haptic feedback, and augmented reality integration, could further improve realism, accessibility, and collaborative planning. Overall, Vivaaha VR represents a comprehensive, user- centered solution that bridges the gap between imagination and reality, offering a scalable and innovative approach to modern wedding planning.

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