Augmented Reality in Tourism

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Abstract

A group of imaging techniques known as augmented reality (AR) aims to smoothly combine real and virtual aspects of a scene. A user can often navigate in a real area using an augmented visualization of artificial elements thanks to augmented reality applications. At the time of writing, smartphones and tablets are the primary platforms on which AR apps are used. These devices provide the ideal hardware: sensors, cameras, graphics processors, and powerful processing units for this purpose. From online gaming and digital pleasure to specialized professional training and simulation, this technology has a wide range of uses.

Keywords— AR, Augmented Reality, User, Application

I. INTRODUCTION

It is challenging because augmented reality encompasses a wide range of hardware and software technologies. By using markers or basic geometric shapes that can be seen by desktop webcams and analyzed in real-time, augmented reality apps can overlay virtual visuals over the actual world and direct users to new information.

In the field of cultural heritage, augmented reality has been employed for a variety of reasons, including as an evaluation tool for archaeologists, as a way for tourists to better understand a location, and as a planning and educational tool for museum stakeholders.

Practically speaking, enhancing reality entails synchronizing and combining disparate representations of both real-world and virtual environments. Depending on the intended use, this fusion must be exact and comprehensive. For instance, certain applications could call for very exact positioning of the virtual parts. It could be necessary for other applications to have visually appealing shading, shadows, and occlusion.

What is Augmented Reality (AR)?

The real-time integration of digital information with the surroundings of the user is known as augmented reality (AR). Users of augmented reality (AR) encounter a real-world environment with created perceptual information superimposed on top of it, as opposed to virtual reality (VR), which produces a completely artificial environment.

Using augmented reality, users can receive more information or have natural settings aesthetically altered in some way. The main advantage of augmented reality (AR) is that it successfully combines digital and three-dimensional (3D) elements with how people perceive the actual environment. AR has several applications, from entertainment to aiding in decision-making.

AR in Tour

When we travel, we usually attempt to plan activities that will help us learn as much as we can about our destination and have fun there. Because they provide information on the key areas, organized excursions are frequently a preferred choice [1].

In this way, guided tours are one-way activities in which the tour guide informs the tourists and the tourists merely take in their surroundings. However, as we have been saying, modern travelers want a more

significant number of participatory experiences that offer them a greater sense of the leading role.

To allow visitors to have a more immersive and experiential trip, several tourist destinations now provide them the option of taking an AR tour. The user interacts with the environment and its components in both directions, making it a bidirectional activity that is also realistic and immersive.

Therefore, an AR tour can present a variety of choices. From transporting the user to a completely realistic setting and reenacting historical or recent events to engaging with various components, offering information, and even playing games while getting to know the place.

Photo from yeppar.com

An important issue we frequently think about when we travel is to hunt for a guide to our location that offers us as much information as possible so that we can move around quickly, know where to go at all times, and even where to eat and sleep [1].

However, using a digital guide or an "AR tour guide" might make this process simpler. With the use of his smartphone, a traveler may now walk along the street and instantly learn about his surroundings thanks to this experience.

AR in the Hospitality and Food Sector

It is possible that the Food and Hospitality Industry is not the first thing that comes to mind when you think of using Augmented Reality (AR), but you would be surprised to know it is becoming very popular in this sector. The hospitality industry is very competitive and being in this sector means keeping up with the latest trends [3].

Delivering the finest customer experience is essential in this sector if you want customers to stick with you and not the competitors. Giving customers all the information, you can, short of letting them taste the food, will help you build brand awareness and customer loyalty, which could lead to an increase in sales.

AR in Restaurants

When it comes to experiencing food on a different level while dining out, using AR in menus adds a new perspective. By including this virtual component, clients are able to not only see how the meal appears, but also to appreciate the many colors and textures before placing their purchase. You may also include supplemental information, such as health advice or an ingredient list, so that people can learn more about the unique cuisine that you think is so delicious.

What seems more appetizing is more likely to be ordered since people often order with their eyes. If you order from a menu, your imagination will have to make the decision for you. However, if you order food that you can see, as if it were actually in front of you, whether you are ordering from the comfort of your home or a restaurant, you are more likely to be able to choose what appeals to you the most.

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AR in Hotels

Potential customers can view hotel rooms in a way that is not possible with images when utilizing AR. By giving them a more accurate preview of what to expect and giving them a better sense of the room, they are choosing, a hotel may more effectively influence the decisions of its customers. By allowing customers to see the hotel before they check in, you may engage them even before they arrive. Last but not least, consider what augmented reality (AR) may do to improve hotel security by instructing visitors on what to do in the event of a fire and even simulating a fire emergency. It is a method for raising client comprehension and attention span while also enhancing safety.

AR in Art and Exhibition

Art has always existed in the history of mankind, whether it was paintings on a cave wall or as a modern piece of art in a museum [5]. As we previously stated, augmented reality (AR) has the power to bring a work of art to life, and as most people are visual

learners, this will engage them more deeply. As they may engage with the artwork, it will become an immersive experience and they will feel as though they are a part of it. It goes without saying that this may enhance visitors' experiences at exhibits and other events. However, there are other things AR can do to enhance itself.
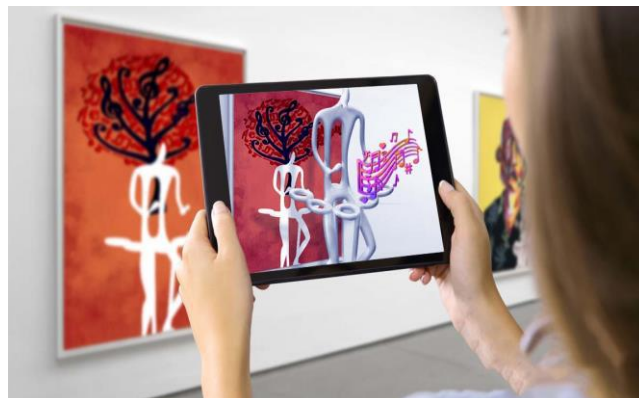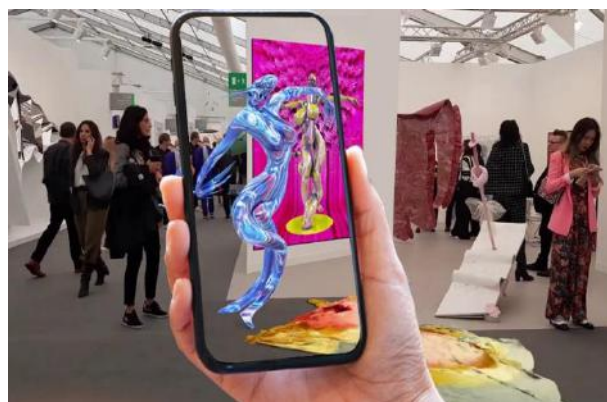

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Integrates with other technology

Connect AR to other technologies, such as beacon technology. This makes it simpler for your hotel to promote to its customers and upsell them through push notifications. Hotels can share exclusive deals or discounts through push notifications with their business partners, or vice versa—your hotel can promote its partner companies. When visitors approach their hotel room, this technology may also be used to unlock the door [4].

Future of AR technology

The goal of the tourism industry is to provide unique experiences, and AR has the potential to support this industry. Technology can help the tourist industry by enabling new kinds of client service. It is anticipated that augmented reality would fundamentally alter the

business models used in the travel industry in the near future.

As more users become used to apps and games, augmented reality technology is growing. By giving AR apps faster data rates and reduced latency, the development of 5G networks may make it simpler to enable cloud-based augmented reality experiences [2].

II. CONCLUSION

The advantages and applications of augmented reality in the travel, restaurant and hospitality industries have been discussed. Without a question, it is an effective instrument for creating new business prospects and improving travel experiences. Additionally, it might help you grow your services and draw in new clients by utilizing new technology to connect with a wider audience.

The ability to overcome language hurdles, improve navigation, and increase reservations by providing a one-of-a-kind experience is made possible by using current tools and gadgets. By bringing your hotel into the digital era and differentiating it from the competitors, new innovations will boost your exposure and brand recognition.

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