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Editorial

Immersive Reality - An Emerging Technology of the Future

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Emerging technologies like augmented reality (AR) and virtual reality (VR) have the power to significantly change the way we interact with information, perception, and interaction.

As shutdowns occurred all over the world, telework increased sharply, and AR, VR, and MR technology helped to fill the gap caused by offsite work. Professionals on conference calls could replicate surroundings with stunning augmented reality backdrops or participate in virtual meetings.

A quickly growing field, augmented and virtual reality is set to confront the globe in unimaginable ways. It will inevitably generate a widespread and intensely immersive experience, spreading its tentacles over all possible domains and in all hypothetical contexts, including education, learning, operating a vehicle, aviation, tourism, and maintenance.

Depending on the need and intent, AR/VR improves the physical environment by adding computer-generated perceptual information to the real-world objects and creating a make-believe world where none actually exists.

A hybrid of AR and VR, mixed reality (MR) combines pictures with already-existing real-world objects to supplement or improve a user's experience. Further confusing matters are created by the term Extended Reality (XR). used to refer to all forms of reality, including augmented, virtual, and mixed.

Here are just a few examples of the inventive XR use cases that are emerging as businesses exploit the value of this paradigm-shifting technology:

- Using virtual dressing rooms to transform the retail buying experience
- Improving healthcare outcomes with better diagnostic tools
- Increasing the appeal, pleasure, and effectiveness of training in schools and corporations
- Building virtual or augmented tours of real estate properties or hotels
- Creating immersive experiences for sports fans or concert attendees
- Using augmented reality on smartphones to direct travellers through airports and retail centres.

By boosting brainstorming sessions and substituting face-to-face communication with avatar-to-avatar communication, virtual reality might provide remote work a new dimension. This would replace chance meetings at the water fountain with chance meetings in virtual spaces.

Augmented reality

Adding more information to the real environment is possible with augmented reality, a hybrid of reality and virtuality. With the use of special transparent glasses, virtual things (text or graphics) are seen in the field of vision. With the aid of augmented reality (AR), users can interact with three-dimensional virtual objects that are registered to physical reality.

In fact, we are examining the most advanced technology and their (AR-VR-MR-XR). It is regarded as a comprehensive manual that offers an introduction, vital advice, and a starting point for

(AR-VR) initiatives and research. Utilizing MR, XR, and display technology applications are examined (AR-VR).

Numerous technological (hardware, software), methodological, and other problems are indicated (visualizing geographical data, interaction with major data sources, etc.). There are still a number of obstacles that need to be resolved before both of these technologies may fully benefit from their individual advancements and be used to address real-world issues.

Since there are countless applications for (AR-VR-MR-XR), augmented reality (AR) will likely become the technology of choice for many of them when sensor-packed smartphones and data glasses enter the consumer market.

The unanticipated needs of the pandemic and the expansion of XR applications outside of the gaming and entertainment industries have sparked a boom in interest in the development of VR, AR, and MR. My prediction is that the growth will continue as extended reality technology advances and becomes more affordable to a wider range of the people.