**Augmented Reality Using Artifical Intelligence**

**Augmented Reality:**

Augmented reality is an interactive experience of a real-world environment where the objects that reside in the real-world are enhanced by computer-generated graphics.

**How Does Augmented Reality (AR) Work?**

* The type of augmented reality one is most likely to encounter adopt a range of sensors (including a camera), certain computer components and a display device, much like a projector to create the illusion of virtual objects in the real world.
* With the boom in smartphone popularity, which have all the necessary components, they have been the platform for most commercial augmented reality applications.
* Basically, the device looks for a particular target. This can be anything, but usually, it’s just a 2D image printed on paper like a movie or music poster.
* Then through the camera, the augmented reality application recognizes the target and processes the image and augments it with pictures and sound. For example, you may see the poster spring to life and play a trailer for the film.
* By using smart algorithms and other sensors the device can keep the augmented elements coordinate with the image of the real world.
* Using a smartphone or tablet computer as a sort of “magic window” into the augmented world is one of the many ways we can use to relay this digital info to our eyes.

**What is the Difference between AR and VR?**For the lay person, augmented reality and virtual reality may seem synonymous. However, the two technologies have several distinct features, particularly when it comes to their applications in business. With VR, users are immersed in an entirely artificial digital environment.

On the contrary, augmented reality is a technology that overlays some virtual content onto a real-life environment. This means that in AR, the user sees and interacts with the real world while digital objects are added to it.

**Augmented Reality uses in different Areas:**

* **AI And Augmented Reality Merge For New Business Solutions**

“Augmented reality (AR) enables us the possibility to visualize and analyze the growing torrent of data in an interactive canvas.such as transactions, Internet, social networks, health care devices and sensor networks.

* **AR Applications for the Ordinary User**  
  For the ordinary user, AR can be experienced on a smartphone, via an AR application, or through a special headset. For instance, think of Pokemon Go and how millions of people worldwide have been frantically searching for tiny virtual creatures. This is one of the most realistic examples of AR applications for the ordinary consumer.
* **Big Data and AR Applications for Business**  
  A number of companies are starting to recognize the benefits of using augmented reality. A case study by Cognizant highlights some of them and emphasizes the importance of using AR tools such as Meta Vision Microsoft Holo Lens.  
    
  For the **retail industry**, AR enables customers to relate or interact with brands and products without the need to leave the comfort of the indoors.
  + AR offers a potential of try-on without visiting the physical store.
  + Consumers can try on various products with AR: clothing, watches, shoes, and jewellery without stepping outside the comfort of their homes.
  + This alone means that AR ads have the potential to be powerful tools for driving sales and boosting revenues for businesses.
  + To enhance the **experience of purchasing a car**, AR applications can be designed to allow prospective customers to experience a virtual car in their driveway.

**Ways in which Augmented Reality is Meeting Artificial Intelligence:**

* **Physical Environment Mapping:** 
  + The result is that you get a fully immersive VR experience with real-world structures.
  + This mixed version of reality could provide precise AR shopping experiences in local retail stores. The company is also inviting developers to get to work on new apps and is taking an open-source approach.
  + The fledgeling system can already produce CAD-quality models of your house, so you can try furniture and decorations before you buy. This mixed version of reality could provide precise AR shopping experiences in local retail stores.
* **Precise Depth perception:**
  + We’re closing in on a world where a surgeon will see your major organs through a headset, with a modern-day slant on X-ray vision.
  + Looking further into the future, surgical robots will take over routine procedures. Automatic depth perception and instant, accurate adjustments will be an essential part of such devices.
* **Selective Hazard Warnings:**
  + Soldiers in the field make split-second decisions under heavy fire that can separate life from death.
  + Soldiers of the future will have a video game-style field of view with all the assists turned on.
  + AR can also highlight clear and present danger, which allows the soldiers on the ground to make informed choices and deal with the threats in order.
* **Customized Simulation & Training:**
  + Artificial Intelligence combined with VR/AR is a potent combination for educating the next generation of surgeons, pilots and even youngsters in school.
  + The system will act more like a customizable trainer than a static simulator.
    - Children could get their own personal tour guide through ancient Rome and the Amazon jungle.They can experience an interactive education that books just cannot deliver.
* **Truly Social Media:**
  + we can meet our friends in both real or virtual environments, from a pool hall to the Taj Mahal, and interact as if they’re in the same room. The processing power required is mind-boggling, but also within our grasp thanks to AI.
* **Character Modeling:**
  + This will open up a new world of realistic animation in video games, cartoons and Virtual Reality environments.
  + Perhaps you shouldn’t be surprised to upset a man who has spent his entire life drawing with AI that replaces drawing.

**References**

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