

Requirements and Characteristics, Spatial Display Model in AR

Spatial Display Model in AR

Spatial Augmented Reality augments real world objects and scenes without the use of special displays such as monitors, head mounted displays or hand-held devices. SAR makes use of digital projectors to display graphical information onto physical objects. The key difference in SAR is that the display is separated from the users of the system. Because the displays are not associated with each user, SAR scales naturally up to groups of users, thus allowing for collocated collaboration between users.

Augmented reality technology superimposes a computer-generated image onto a user's view of the real world. It provides a composite 3D view that provides full immersion. AR can be experienced through headsets that people wear and through displays on mobile devices.

USES

AR apps, headsets, and smart glasses add value to virtually every industry – from retail to industrial manufacturing. AR has the potential to solve some of the biggest problems.

Initially PC, smartphone and tablet applications for augmented reality focused on games, but the uses of AR has extended far and wide. Listed below are a few uses of AR technology:

Product view - Allows customers to view and interact with products or services before purchasing.

Enhance content - Allows users to embed various types of data onto content. People can point their device at a real-life object to learn whatever kind of information is necessary, instead of needing to search for it elsewhere.

Training - AR enables users to train employees more thoroughly than they can through documentation and meetings. This software allows for trainees to learn job responsibilities by fully visualizing them, instead of just reading about job duties.

Productivity - This software enables users to improve workflow and processes at their business. Factory line workers can spot potential dangers quicker.

Engage your audience - People are inundated with print and television advertisements to the point where they don't pay much attention to them. Inserting augmented reality into advertisements will catch the eye of your target demographic.

REQUIREMENTS

Hardware requirements for augmented reality include:

- battery life
- bluetooth connectivity/Wi-Fi
- field of view in 3D view
- on board storage capacity
- on board OS/Web Browser

- inputs/outputs (button, eye tracking, accelerometer)
- microphone
- sound capacity
- display capacity
- visual tracking
- Software requirements for augmented reality include:

AR software works in conjunction with devices such as tablets, phones, headsets, and more. These integrating devices contain sensors, digital projectors, and hence require:

appropriate software that enables computer-generated objects to be projected into the real world. on-board operating system and user interface to support the software web Browser authoring to allow the user to use API links to other databases and websites to display information.

ADVANTAGES

Some of the advantages to augmented reality are:

- to get or enhance creativity
- provide a new product experience
- able to preview the product visually
- build real-time data experiences
- enjoy experiential experiences
- functional uses demo

LIMITATIONS OF AUGMENTED REALITY

- Some of Augmented Reality's limitations include:
- rendering digital data into meaningful graphics
- scaling digital data to be suitable with the perspective of the visual field
- in smartphones, AR must work with limited storage, small processing power and small amount of memory.