

What is AR Software?

AR software works in conjunction with devices such as tablets, phones, headsets, and more. These integrating devices contain sensors, digital projectors, and the appropriate software that enables these computer-generated objects to be projected into the real world. Once a model has been superimposed in the real world, users can interact with it and manipulate the model.

These solutions have additional uses aside from placing a 3D model into the real world. AR is commonly used for entertainment purposes—specifically gaming. This software can also be used to display contextual information. Users can point the hardware's camera display at an object to display valuable data.

Why Use AR Software?

As AR is still a young technology, it provides certain advantages to businesses that other software cannot offer. The following are just a few of the benefits to using AR software in your business.

Product view – AR technology allows potential customers to view and interact with your product or service before purchasing. This can enable them to make better-informed decisions.

Enhance content – AR technology 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 solutions enable 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. This is particularly true for manufacturing-based organizations. Factory line workers can spot potential dangers quicker, along with accessing necessary resources.

Engage your audience – Consumers are inundated with print and television advertisements for various products and services, 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.

Who Uses AR Software?

AR software can be utilized by users in a number of different fields, such as:

Retail – Users in the retail industry can leverage AR technology so consumers can virtually test out products before they make a purchase. For example, AR retail applications allow users to upload a photo of themselves and visualize what a particular piece of clothing would look like on their body. Shoppers could also use these kinds of applications to visualize what a piece of furniture would look like in their house.

Education – AR technology is being increasingly used in the classroom to supplement lessons. For example, if a teacher was doing a lesson on astronomy, AR software could project a map of the solar system so students could visualize what they are learning about.

Repair and maintenance – Employees performing manual labor can wear AR glasses to help with repair and maintenance jobs. AR software can be used to project valuable data and inform the user where a certain part is supposed to go.

Medical – Doctors, particularly surgeons, can use AR technology for training purposes. All the documentation and videos out there are not realistic enough to prepare a surgeon for what surgery is really like. AR technology can help trainee surgeons visualize what the actual act of surgery would be like.

Kinds of AR Software

AR is still young, with many new types of technology still emerging. However, the following are some of the main types of AR software on the market now:

AR visualization software – This type of software enables organizations to create immersive experiences for consumers to interact with. AR visualization software users can upload 3D content and scale the image, adjust the color, and incorporate the additional details needed to give the best user experience possible.

AR content management system (CMS) – An AR CMS lets users bulk upload raw 3D content that will eventually become the basis for AR experiences. This content can be managed and edited within the platform.

AR SDK – These tools allow users to build digital objects that will blend into the real world that will eventually become fully fledged AR experiences.

AR WYSIWYG editor software – This software enables users with limited to no coding background to create customized AR experiences. These tools have drag-and-drop capabilities that let users upload 3D objects and drop them directly into previously designed scenes.

AR game engine software – These solutions give game developers the framework for creating AR video game experiences. Using AR game engine software, users can create and edit 3D characters that can interact with the real world.

AR training simulator software – AR training simulator software leverages AR technology to train employees for certain jobs.

Industrial AR platforms – These solutions are typically used by organizations in the industrial field. These tools include interactive AR content that improves these employees' productivity, effectiveness, and safety.

AR Software Features

Content management – Many AR solutions, regardless of the specific category they fall into, provide users with the ability to store and manage their content. This can range from raw 3D content that will serve as the basis of an AR experience to content that has already been designed.

Editing – AR solutions should allow for users to edit the 3D model they upload into the platform. Users can scale the image, adjust the color, and incorporate any additional details needed.

Hardware integration – In order to provide the intended AR experience for a consumer, the software must integrate with devices that support AR software. This includes glasses, Android and Apple mobile phones, and tablets.

Drag-and-drop – Some AR development solutions are designed to be user-friendly for those with little to no coding experience. Tools like this offer a WYSIWYG editor, which allows users to upload 3D objects and insert them into previously designed scenes so that they eventually become AR experiences.

Additional AR Features

Analytics – Some AR tools, such as products in the AR visualization software space, will provide analytics capabilities for users. This lets businesses see how consumers interact with the 3D object within AR mobile applications, which should be supported on both Apple and Android devices.

Upload content – AR software products allow businesses to upload 3D content necessary for their specific business purposes. This is particularly relevant for AR training simulators, as businesses need to ensure the software will support the content needed for trainees to learn the job at hand.

Trends Related to AR Software

AR advertising — Various brands are beginning to introduce augmented reality into their promotions. AR can enhance a user's experience with your brand. Entertainment companies will likely avail themselves of this technology, so they can bring various elements of a show or movie to life.

Health care — Not only can AR technology help to train surgeons, but it can assist them once they are already well-versed in their work. Some surgeons have already used AR while operating on human hearts, so they can visually see the clogged vessels they are working on. AR will likely continue to grow in the healthcare field, as it can help caregivers make the best-informed decisions in life-or-death situations.

Android and Apple mobile sales — Smartphones are among the devices that can support AR technology. As AR software becomes more and more common in the marketplace, mobile phone manufacturers will likely begin to compete to build the phone best equipped to support AR. Android and Apple phones will likely go head-to-head with each other.

Wearable AR — Developers have begun to set their sights on wearable AR technology, specifically glasses. And as this continues to grow, developers are working to make these glasses more ergonomic. This technology is anticipated to become smaller, more form-fitting, and better attuned to human senses.

Opening field of view — As AR glasses are on the rise, developers are also working to open up the field of view. Most glasses limit the field of view to about 45–50 degrees, compared to the human eye's 120 degree field of view. AR developers are working to close that gap.

Potential Issues with AR Software

Cost – One of the biggest factors that has hindered AR from becoming mainstream is the cost. It can be very expensive to purchase the hardware to support AR technology. Streaming the content is also very costly. Content for these solutions needs to be streamed in a very high resolution and rendered at a high refresh rate. This content also requires a large bandwidth for streaming. All these factors add up, making consumers wary of adopting AR.

Accessibility and education – Due to the cost, AR technology is not too accessible to the masses. Since very few people are exposed to this software, it is hard for them to conceptualize the wide-ranging uses that AR can offer. Unless developers change the user experience and the messaging around this technology, it will be difficult to get past this hurdle.

Software and Services Related to AR Software

Virtual reality: AR often goes hand-in-hand with VR. VR immerses users into a fully realized 3D environment by way of a headset that supports VR software. This technology should not be confused with AR, as there is no aspect of the real world integrated into this software. However, AR and VR can work in tandem in a fairly young technology referred to as mixed reality (MR). MR lets users see real-world environments, just like AR. MR also enables these users to see virtual objects, just as VR does, while anchoring those objects to a point in real space.