AUGMENTED REALITY

AVIAN

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AR

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OUR VISION

“CREATING SIGHT-
TO LIGHTEN THE LANTERN FOR
FUTURE TECHNOLOGIES,
DESIGN AND ACCESSIBILITIES.“

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ABOUT US

AMBIENTLIGHTS is a digital agency for technology-based creative concepts. Based in Offenbach am Main, it is managed by the owners Lars Gulliver Dieth and Karanvir Singh Dhindsa since 2019.

The partners, who has previously worked as 3D artists and art directors respectively, decided - after devoting many years of hardwork in this sector - to take the step into self-employment.

We see ourselves as an independent design and digital agency, specialised in the field of virtual reality, augmented reality and 3D motion, creation of print and Internet media, programming and development of websites and apps as well as individual software applications, exhibition and event design, PoS and all related services, including advice and implementation.

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WHAT IS AR?

Augmented Reality (AR) is the technology that expands our physical world, adding layers of digital information onto it. Unlike Virtual Reality (VR), AR does not create the whole artificial environments to replace real with a virtual one. AR appears in direct view of an existing environment and adds sounds, videos, graphics to it.

A view of the physical real-world environment with superimposed computer-generated images, thus changing the perception of reality, is the AR.

The term itself was coined back in 1990, and one of the first commercial uses were in television and military. With the rise of the Internet and smartphones, AR rolled out its second wave and nowadays is mostly related to the interactive concept. 3D models are directly projected onto physical things or fused together in real-time, various augmented reality apps impact our habits, social life, and the entertainment industry.

AR apps typically connect digital animation to a special 'marker', or with the help of GPS in phones pinpoint the location. Augmentation is happening in real time and within the context of the environment, for example, overlaying scores to a live feed sport events.

The possibilities are endless.

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AR - CURRENT SITUATION

There has been a massive surge in technological advancements around the world that have created significant challenging competition among companies where each of them are trying to attract more customers and increase their market share. One of those recent technologies is Augmented Reality (AR).

AR is a technology that is capable of presenting possibilities which are impossible for other technologies to offer and implement. Nowadays, many augmented reality applications are being developed and used in the different industries to market ,train and engage with their customers and employees. Companies are integrating more and more AR tools to their pipeline and finding the hidden potential and achieving higher goals.

AR is yet in its initial phases of development and is being researched in colleges and high-tech institutes around the world. Through the last years, AR has developed significantly and has become available on most devices. AR has also started to occupy its place in our audio-visual media and to be used in various fields such as news, sports and music videos and have made them more exciting and engaging. It is also being heavily used in many other fields such as e-commerce, retail marketing, design, manufacturing, tourism and business. In addition, AR is also being used to facilitate learning, where it enables students and employees to access location-specific information and learn engagingly and interactively to reach better results. Such growth and spread of AR pushes organizations to compete with each other and find ways to better implement AR to their advantage. This is where the limitation and problem with understanding mass-implementation, engagement and cost effectiveness comes into light.

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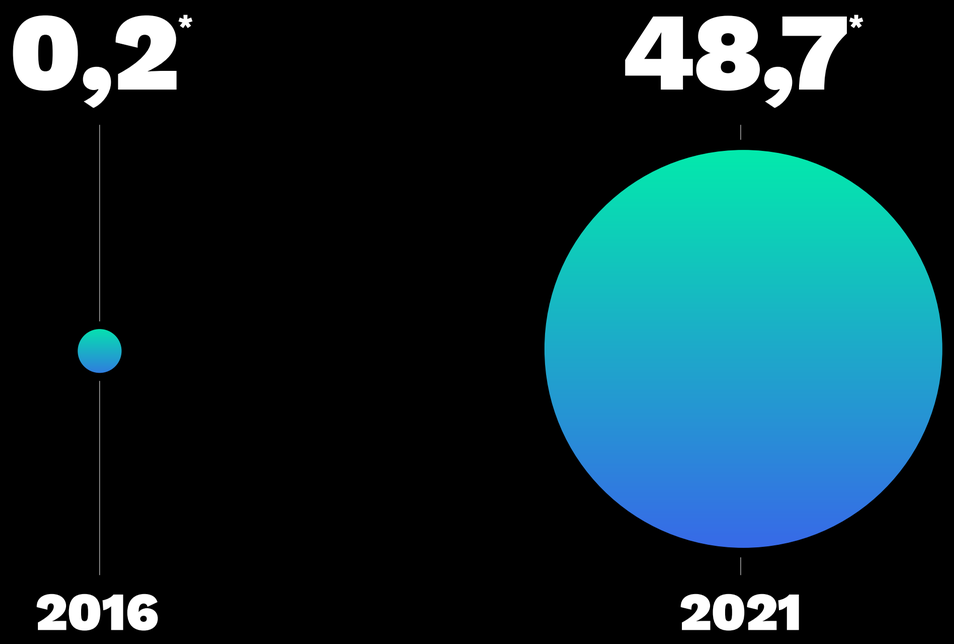
A BRIGHT FUTURE FOR AR

Global market development forecast for Augmented Reality (2016 - 2021)

* Revenue (in billion US dollars)



Source: IDC, statista

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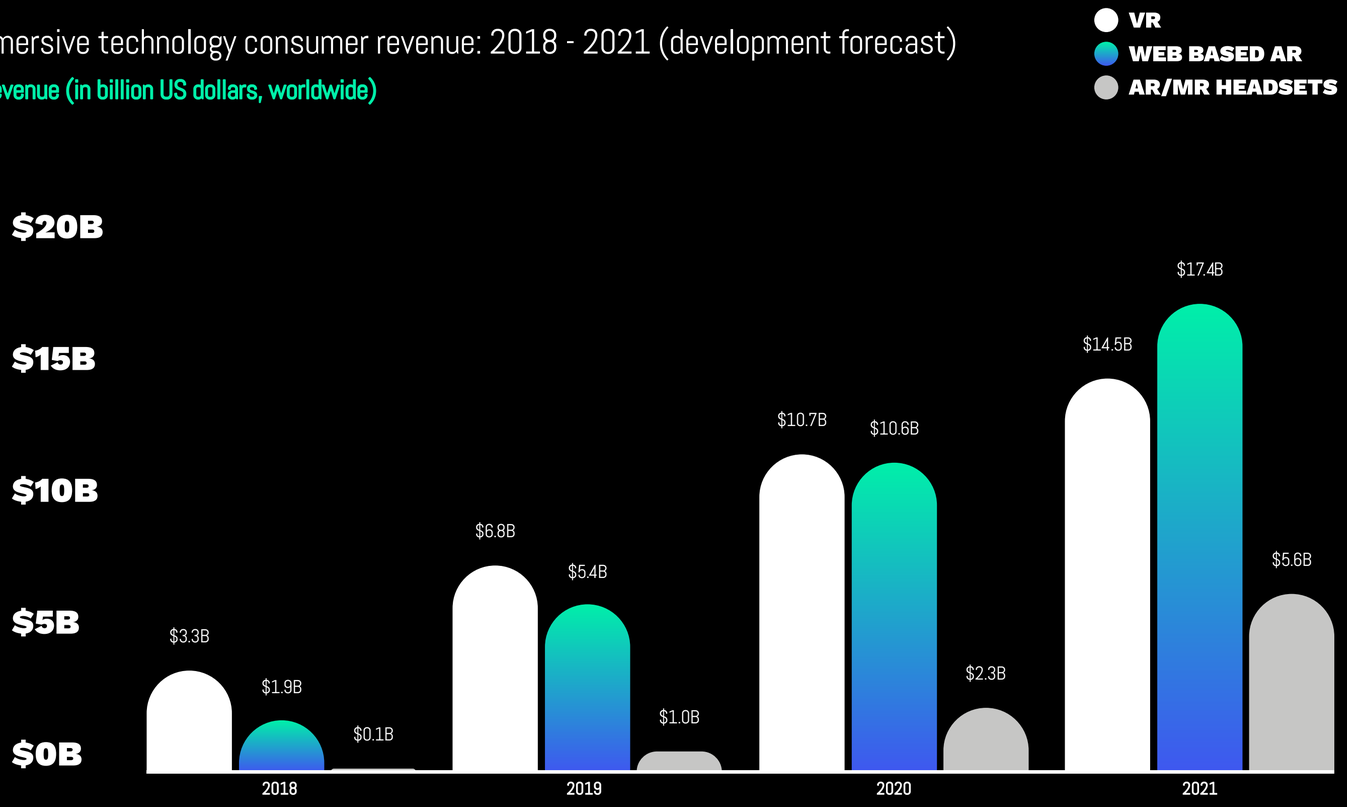
THE IMMERSIVE MARKET

Immersive technology consumer revenue: 2018 - 2021 (development forecast)

* Revenue (in billion US dollars, worldwide)



Source: Superdata, 4P

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WHY AR IS RARELY USED

As per a recent study, 58.3 percent of AR professionals surveyed identified a lack of an understanding for the benefits or options of augmented reality (AR) as an issue that is stopping them from integrating the technology. This was closely followed by the lack of a business case or proof of a return on investment (ROI), with 54.2 percent of respondents citing this reason.

- Lack of an understanding for the benefits or options of augmented reality (AR)
- Lack of business case ideas
- Proof of return on investment (ROI)

HOW CAN WE CHANGE THIS?

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AVIAN AR CAN CHANGE THAT

- It runs 100% on your web browser, i.e no application needed to be developed or installed.
- AVIAN AR supports all major platforms and runs seamlessly.
- Supports 3D models, images, videos, sounds and trigger actions for best creative and engaging solutions.
- Smooth display of contents with upto 60 fps.

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WHAT IS AVIAN AR?

Understanding and building the client relationship has become the keystone for every business's success. Daily we see businesses reinventing and engaging with their clients in a whole new way whether package design, email promotion or good old fashioned street promotion, but emerging technologies like Augmented reality have always remained in the shadows.

Nowadays if you want to use AR to engage your client you need either to invest in a special device or a special app. which consumes not only your money and time but also fails to link the business and client relationship.

But not anymore !! introducing AVIAN AR a unique, High tech, data driven, cross platform, web based augmented reality platform that will make this task seem like a breeze. With Avian AR, businesses don't need to invest in special devices or apps. Avian runs 100 % on web browsers and integrates seamlessly into your website. Avian supports nearly 99% of smart devices with web browsers. so it not only helps you engage,manage and shape your clients experience, but also generate new leads to help business grow.

As for the client business relationship it couldn't have landed on a better shore then your website. Emails and websites constitute over 70% of client business engagement making Avian your perfect marketing partner.

So now the power is in your hands, Don't just make a solution, make an experience.

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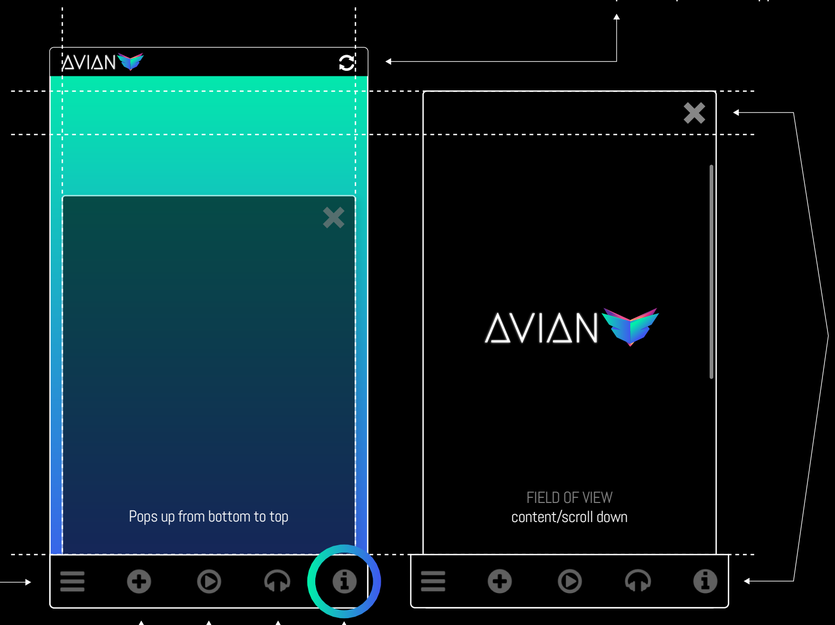
HOW DOES IT WORK?

AVIAN AR

Technical specifications

AVIAN AR is a pure web solution, so no installation required. The AR output is fully javascript based on three.js + A-Frame + jsartoolkit5. It works on any phone with webgl and webrtc.
The AVIAN AR interface is programmed in HTML5, designed in CSS3.

If you have problems with your internet connection please update the app with the refresh button.



SHOW WHAT YOU HAVE - Under this tab you can provide your customer or visitor with various content. If the user clicks on a content of interest, the AVIAN AR environment will be reloaded and the desired product will be provided in AR.

Designed for product presentations, location-based information sources & events or, as in a museum, individual stations that the visitor runs through. The possibilities are limitless.

To close the window with the additional information please click on the cross or again on the previously selected icon.

ADDITIONAL INFORMATION - Under this tab you can provide your customers or visitors with precise additional information about the AR content.

FIRST OF ALL, PLEASE LEARN HOW TO USE THE AVIAN AR INTERFACE

SOUND CONTENT - Here you can provide your customers with additional audio information about your Products and the AR content

VISUAL CONTENT - Here you can provide your customers with additional video information about your Products and the AR content.

To ensure you the best experience within AVIAN AR, please use AVIAN AR in portrait mode.

Connect your headphones to your smartphone to experience audio and video content.

To rotate the 3D model in Marker Based AR please use one finger. (Please note: 3D = X, Y and Z axis)

To scale the 3D model in Marker Based AR please use two fingers (pinch).

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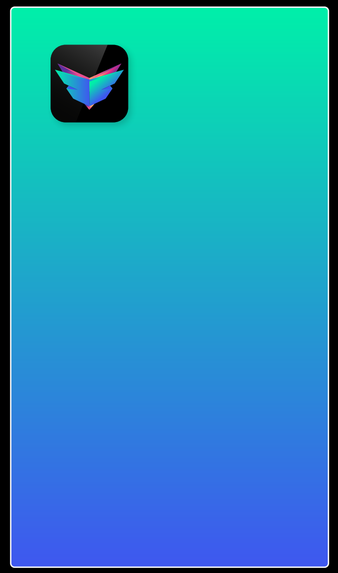
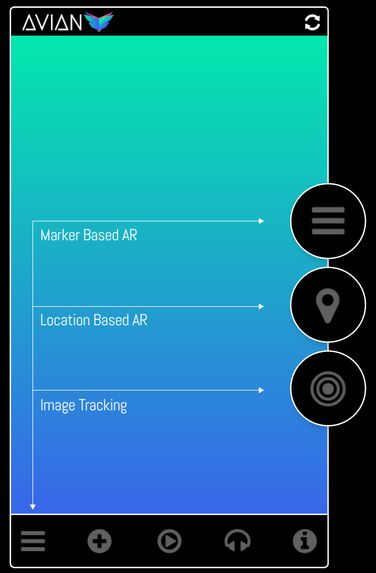
FEELS LIKE A NATIVE APP

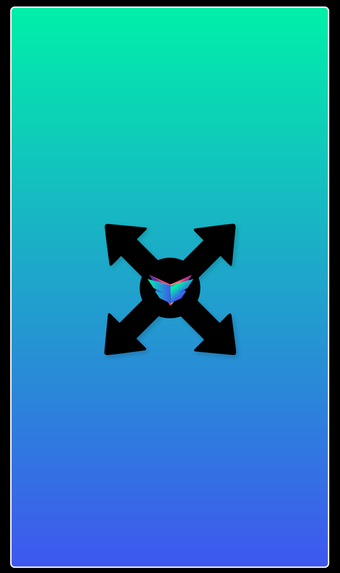


App icon

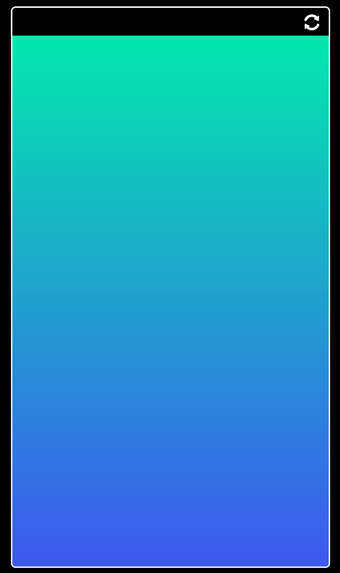
Loading splash screens



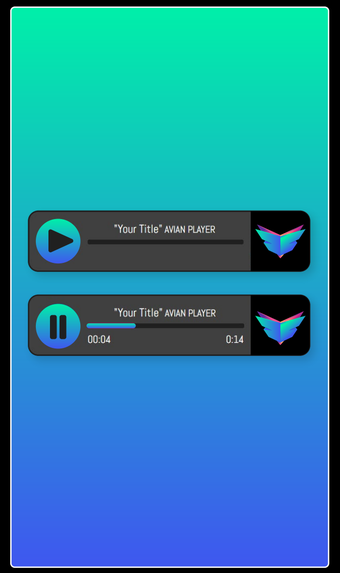
Stunning & clean interface
for deeper information
(Adapted for each AR type)



Fullscreen/
Homescreen Support



Refresh button to reload
in fullscreen



AVIAN PLAYER
(plays all formats)

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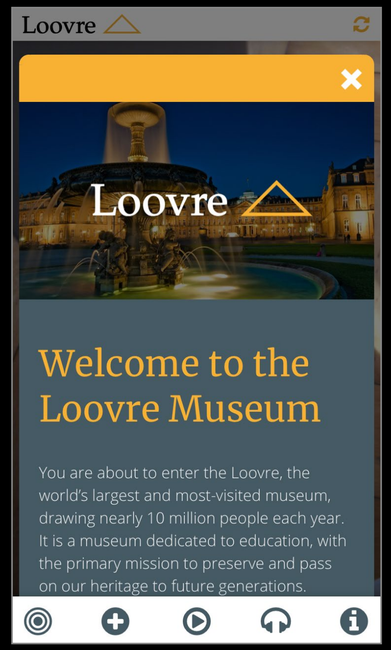
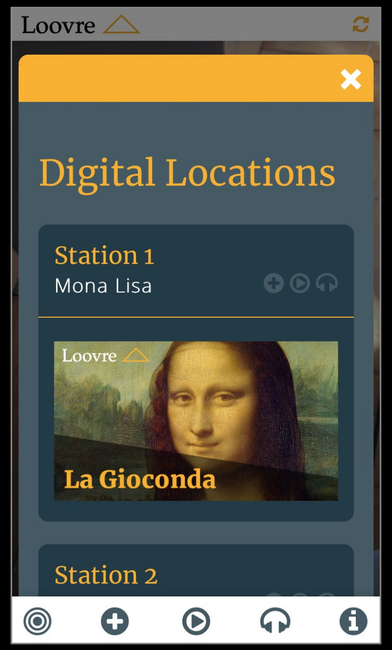
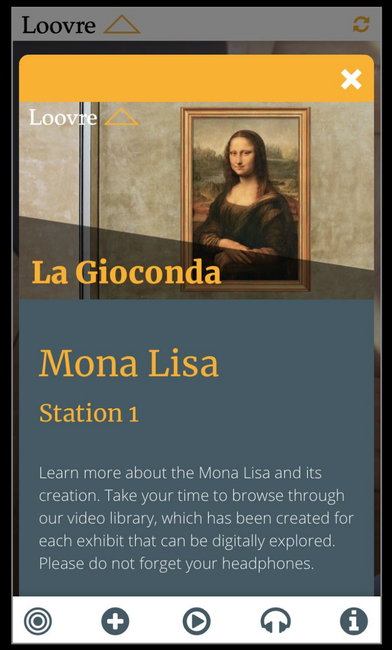
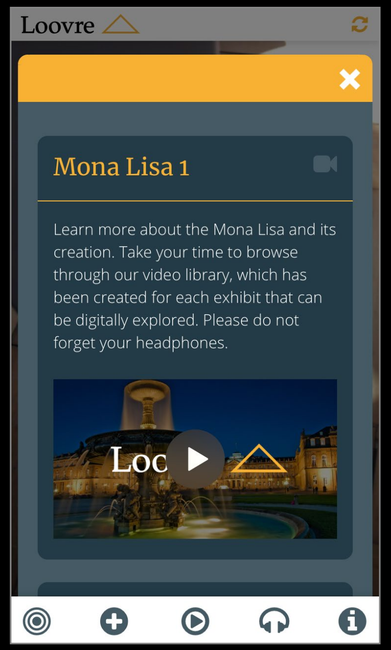
DEMO FAKE MUSEUM
„LOOVRE“

FULLY CUSTOMIZABLE









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AVIAN AR - TARGET GROUPS

- INDUSTRY 4.0
- CULTURAL HERITAGE
- TOURISM
- MARKETING
- BIG DATA
- MED TECH
- SHOPPING/ RETAIL
- ARCHITECTURE
- FINANCE
- INFOTAINMENT
- EDUTAINMENT
- MILITARY
- ART & CULTURE
- INTERACTIVE PRINT
- MANUFACTURING

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AVIAN AR - OVERVIEW

There are several key questions we must ask before a user can interact with the digital world.

What content do we display on the live camera view?
And where exactly should we put that content within the user's view?
The answer to these questions depends on which application of AVIAN AR you choose, as each requires different types of user interaction.

MARKER BASED AR

Marker Based AR is an efficient augmented reality solution for web and print. When the marker is triggered, a web interface opens which displays the desired additional information in AR.

LOCATION BASED AR

Location Based AR is the term used to describe AR content related to objects with specific coordinates in the real world (usually longitude and latitude). Thus, Location Based AR can be placed anywhere in the world.

IMAGE TRACKING

The technology for image tracking is called NFT (Natural Feature Tracking). With the help of an NFT marker generator it is possible to generate image descriptors that are used to recognize the input image after loading it into a web application. As soon as the image has been recognized, it will display the desired content just like Marker Based AR.

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MARKER BASED AR

The digital world is anchored to the real world

To display an educational animation right onto the page of a book, we need to know that the user is pointing the camera at that particular page. Therefore, the device must first recognise which page you're looking at from the live camera view. This can be achieved by placing a distinctive picture or shape on the page.

That picture will be recognised and the animation can start immediately, tracked to the appropriate place on the page. The user can also move the physical book around and see the virtual world "stick" to the real surface of the page. We call the distinctive picture that can be recognised by the device, the marker. A marker can be anything, as long as it has enough unique visual points.

Typical examples include any print media, such as logos, packaging, posters or brochures. Or objects, often a product itself such as a drinks can, bottle, or even machinery.

USE CASE EXAMPLES

- Retail
- Tourism
- Product explanations/ Interactive Print
- Manufacturing/ Automotive Industry
- Art and Culture

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IMAGE TRACKING (NFT)

Image Tracking brings pictures to life

The technology for image tracking is called NFT (Natural Feature Tracking). It is a Markerless technology that allows the tracking of any image. This type of technology recognizes certain images following a pre-training. We must extract what are called the features points and keep this data for later comparison with the image to be traced.

NFT (Natural Feature Tracking) markers are used to track custom rectangular images and do not require the marker to be square or to have a thick border around the image. For example, if you wanted to pop up interactive 3D models for the building photos in an architecture book, you could create an NFT marker out of each building photo. An NFT marker contains multiple versions of the marker image at different scales. This way the tracker can do fast top-down image matching, starting with trying a low-resolution match and working its way down to a camera resolution match.

USE CASE EXAMPLES

- Interactive Print
- Interactive Education
- Shopping
- Fashion/ Tourism/ Healthcare
- Art and Culture/ Entertainment

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LOCATION BASED AR

The virtual world is in a physical space

Location Based AR is the term used to describe AR content related to objects with specific coordinates in the real world (usually longitude and latitude).

Thus, Location Based AR can be placed anywhere in the world.

Imagine walking in a city street you're not familiar with and through your phone's camera seeing a virtual road sign displaying the street name, this is location based AR.

Placing virtual objects anchored to the real world is useful for a wide variety of applications, from walking directions to place labels, treasure hunts or even virtual tourist guides and local information.

You can place virtual objects right on top of the physical space for example a city street, an indoor shopping centre or an airport.

USE CASE EXAMPLES

- City Concept/ Tourism
- Events
- Shopping/ Retail
- Interactive Education
- Art and Culture

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