



CAPPASITY

Cappasity is an easy, scalable platform for creating, embedding, and analyzing 3D and AR/VR content

White Paper v7.7

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12. As with other decentralized cryptographic tokens based on the Ethereum protocol, CAPP is susceptible to attacks by miners in the course of validating CAPP transactions on the Ethereum blockchain, including, but not limited to, double-spend attacks, majority mining power attacks, and selfish-mining attacks. Any successful attacks present a risk to the Cappasity Ecosystem, CAPP, including, but not limited to, accurate execution and recording of transactions involving CAPP.

What is CAPP utility token? (Full text - <https://3d.cappasity.com/policies/tos>)

We use blockchain infrastructure to store and manage 3D digital asset copyrights. CAPP token, an ERC-20 Ethereum token, is issued to store the digital asset copyrights and as a payment solution for the Service.

We offer CAPP tokens for sale on our platform as an alternative and more convenient payment method for the Service. The price of CAPP tokens depends on supply and demand for CAPP tokens and for the Service and can fluctuate based on market conditions. If you purchase CAPP tokens, you represent that you are doing so for the primary purpose to utilizing CAPP tokens to pay for the Service and not as an investment. The CAPP token sale transactions on our platform are processed by Cappasity Technologies International Ltd, a Cayman Islands company (the "Payment Processor"), the issuer of the CAPP tokens.

The processing of CAPP token purchases will be subject to the terms, conditions and privacy policy of the Payment Processor in addition to these Terms of Service. We are not responsible for any errors committed by the Payment Processor, and reserve the right to correct any errors or mistakes made by the Payment Processor. By purchasing CAPP tokens on our platform you agree to Payment Processor's terms, conditions and privacy policy and hereby consent and authorize us to share with Payment Processor any information and payments instructions you provide to us to the minimum extent required to complete your transactions.

CAPP tokens are also available for purchase on KuCoin exchange ("Third Party Exchange"). If you purchase CAPP tokens on a Third Party Exchange, you are agreeing to such third party's terms relating to payment and such other terms as may apply. We are not responsible for any issues related to the services provided by any such Third Party Exchange to you in connection with the purchase of CAPP tokens.

All sales of CAPP tokens on our platform are final. No refunds for CAPP tokens will be offered or given, except in our sole and absolute discretion. If we discontinue providing any or all portions of the Service or if your account is terminated or suspended for any reason, you may keep any previously acquired CAPP tokens and use, or otherwise dispose of, such CAPP tokens, to the extent possible and legally permitted under applicable laws.

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Abstract

We believe that content creators will drive 3D revolution. That is why we are introducing the first platform that solves the problem of creating and embedding 3D and AR/VR content in an affordable way. The Cappasity platform uses blockchain infrastructure to store and manage 3D digital assets copyrights.

CAPP token is issued both to store the digital asset rights and as a payment solution for the Cappasity ecosystem. The Cappasity ecosystem is used by enterprises and ordinary users. The ecosystem encompasses a content storage, a decentralized copyrights storage, CAPP Wallet, Internal Exchange, API for the third-party developers, free utilities and modules allowing users to connect to the platform via websites, mobile and AR/VR applications.

The CAPP tokens are Cappasity's digital asset and their main utility is the creation of a digital license for the content stored on the Cappasity platform or partners' platforms. CAPP tokens enable us to encode copyrights to store them in the blockchain, this process cannot be done without the tokens.

Introduction to the 3D/AR/VR context

Why do 3D/AR/VR technologies matter



There's always a richer, more immersive medium to experience the world, and after video, the next logical step is fully immersive virtual reality.

Mark Zuckerberg, Facebook CEO at the Oculu Connect¹

The top-tech companies bet on virtual as well as augmented realities thereby expecting them to shake up many industries and massively reboot our lifestyle and behavior as it happened with the Internet in the 90s and smartphones in the new millennium. Google, Apple, Samsung, Huawei, Facebook among other top-techs drive the race and dedicate significant budgets² to support their

own AR/VR programs and product lines.

While often mentioned together, augmented and virtual realities are not the same technology. Virtual reality implies immersion into a virtual world which is completely isolated from reality. VR uses goggles that completely cover the user's field of vision, creating the illusion of transferring the user to a virtual space.

In contrast to virtual reality, augmented reality doesn't remove the physical world but enriches it by superimposing digital objects developed with the help of computer graphics software or other techniques. The user is aware of both, the virtual and the physical, and may interact simultaneously with virtual objects as well as with the real world. The most familiar implementation of augmented reality was in aviation³ almost half a century ago — it helped pilots navigate through fog by overlaying necessary indications on the screen showing their surroundings.

In recent years, we have witnessed a new resurgence of AR and VR technologies. Since the tremendous success⁴ of VR gaming device Google's Oculus Rift on Kickstarter in 2012, we have seen more and more releases in the hi-tech AR/VR market which have encouraged investors and analysts like Google Cardboard, Samsung Gear and Pokémon Go.

Though the technology is still in its early stages, investors are unanimous about the AR/VR's bright future. AR and VR technologies presage an increased level of digital immersion and interconnectivity between the online and offline spaces. As the technology evolves, no doubt it will see more widespread adoption amongst consumers and business. Despite the VUCA⁵ environment, such certainty is not groundless or reckless at all. It is supported by two clear trends in the society: immersion and participatory culture.

If anything can be considered a precedent for VR technologies, it's participatory or immersive theater, which has faced a high demand in the past few years, starting with show *Sleep No More*⁶, which opened in 2011 and was followed by a number of prominent stagings. Audience members were thrilled to be treated as a part of the performance and were encouraged to participate in the story and interact with actors⁷. Immersive theater is a natural partner to VR technologies, as creators seek to deliver theater to the general public through VR experiences, such as the *Delusion* immersive theater series⁸.

The trend for immersion is the logical conclusion of the participatory culture which displaced consumer culture in the Web 2.0 era⁹. The central concept of this culture is that a consumer should evolve into a proactive participant and contributor to the environment they belong to, leading to the new term "prosumer." In general, society is no longer content to passively consume content and services but wants to be a part of it instead.

According to Clay Bavor, VP of Virtual and Augmented Reality at Google, we are on the frontier of

an era of immersive computing driven by AR and VR technologies¹⁰. Immersive computing will remove the level of abstraction with which we interact with the digital world, just like when touchpads and smartphones first became popular a decade ago, and will create a myriad of new experiences of environmentally aware computing, rich in lifelike context.

AR/VR history timeline

19th century PANORAMIC PAINTINGS the 360-degree murals

- **1838 - STEREOSCOPIC PHOTOS & VIEWERS**
the Stereoscope (Charles Wheatstone)
- **1849 - the Lenticular Stereoscope** (David Brewster)
- **1929 - « LINK TRAINER** (Edward Link) The 1st entirely electromechanical Flight Simulator.

Brain processes the different two-dimensional images from each eye into a single object of three dimensional

- **1930s - SCIENCE FICTION STORY PREDICTED VR**

Stanley G. Weinbaum in Pygmalion's Spectacles expressed the idea of a pair of goggles that let the wearer experience a fictional world through holographics, smell, taste and touch

- **1939 - The View-Master** (William Gruber)
- **1950s - « SENSORAMA** (Morton Heilig) A theater cabinet for full film immersion stimulating all the senses by stereo speakers, stereoscopic 3D-display, fans, smell generators and vibrating chair.
- **« TELESPHERE MASK** (Morton Heilig) The first VR Head mounted Display.
- **« HEADSIGHT** (Comeau & Bryan) The first motion tracking HMD by Plico Corporation.
- **1965 - The Ultimate display** - concept simulating a virtual world indistinguishable from actual reality viewed through a HMD and appeared realistic through augmented 3D sound and tactile feedback.
- **1968 - « SWORD OF DAMOCLES** (Ivan Sutherland, Bob Sproull) The first VR/AR head mounted display connected to a computer and not a camera.
- **1969 - « ARTIFICIAL REALITY** (Myron Krueger) A series of responsive computer-generated environments: GLOWFLOW, METAPLAY, PSYCHIC SPACE and VIDEOPLACE tech.
- **1987 - « THE DATAGLOVE** (Jaron Lanier, Tom Zimmerman) VR gloves
« THE EYEPHONE (Jaron Lanier) VR goggles
- **1991 - VIRTUALITY GROUP ARCADE MACHINES** realtime multiplayer gaming experience with immersive stereoscopic 3D visuals.
- **1992 - The Lawnmower Man** - movie introduced the concept of virtual reality to a wider audience.
- **1993 - SEGA VR headset for the Sega Genesis console** The wrap-around prototype glasses had head tracking, stereo sound and LCD screens in the visor.
- **1995 - The Nintendo Virtual Boy** (originally known as VR-32) This 3D gaming console was hyped to be the first ever portable console that could display true 3D graphics, though met a commercial failure due to the poor software.
- **1997 - « TOURING MACHINE** (Steve Feiner et al.) The first mobile AR system (MARS) which included see-through HMD with integral orientational tracker, differential GRS, digital radio for wireless web access and a hand-held computer with stylus and touchpad interface had to be carried around in a backpack.
- **1999 - The Matrix film hits** - theaters with a major cultural impact bringing the topic of simulated reality into the mainstream.

The market today



The smartphone is for everyone, we don't have to think the iPhone is about a certain demographic, or country or vertical market: it's for everyone. I think AR is that big, it's huge. I get excited because of the things that could be done that could improve a lot of lives. And be entertaining.

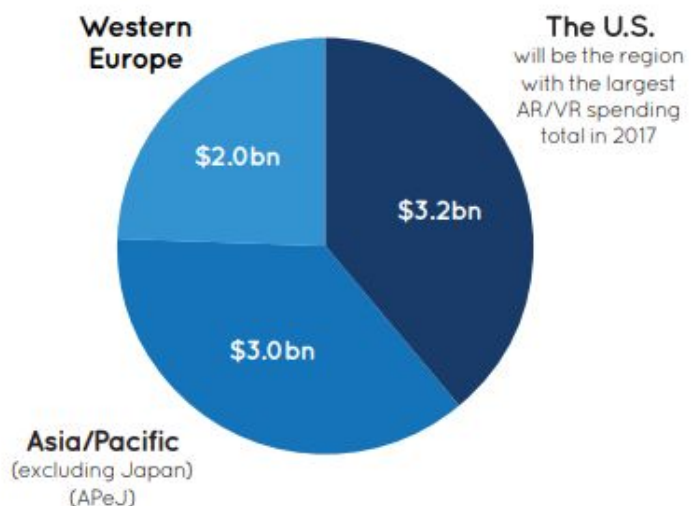
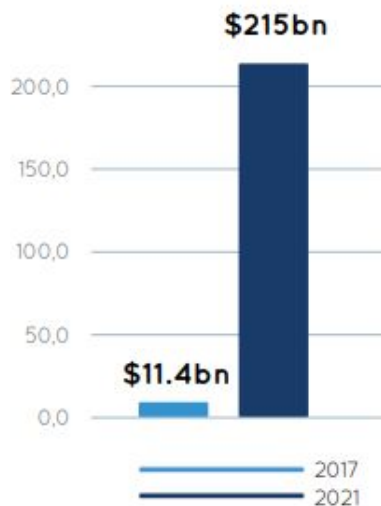
Tim Cook, Apple CEO
interview for The Independent¹¹

Market projections promise AR/VR exponential growth

According to International Data Corporation (IDC) analytics published in August 2017, the worldwide AR/VR revenue will jump as high as \$215 bn by 2021, achieving 113.2% CAGR along the way¹².

IDC worldwide spending on
AR/VR forecast
Source: IDC Research

Regional spending on AR/VR in 2017
Source: IDC Research



Digi-Capital consulting holds a more conservative point of view. In their Augmented/Virtual Reality

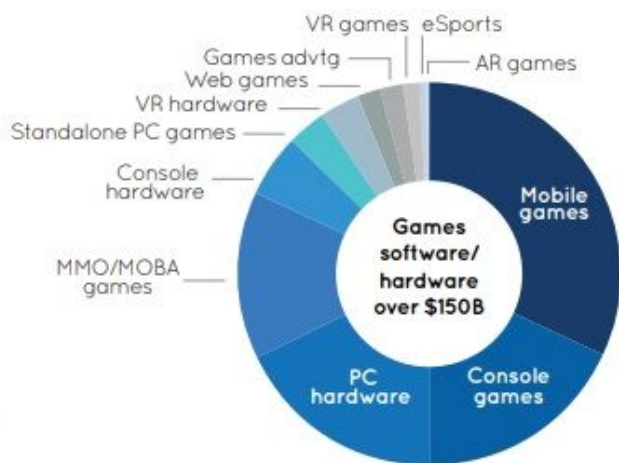
Report for 2017 they predict the AR/VR market will reach \$108bn in 2021. Their estimations are based in the AR/VR market's performance in 2016. Digi-Capital's AR/VR forecast for 2016 was \$4.4bn with \$3.8bn of that VR revenue and \$0.6bn AR. The firm says, VR was overestimated and accrued \$2.7bn revenue only, but AR overbalanced the projection adding \$1.2bn partly due to the incredible popularity of Pokémon Go¹³. In the near future the company sees mobile AR as the leading force. Taking into account that giants like Facebook and Apple have already stated their interest in the AR sector, it is expected to make a giant leap soon.

The abundance of the M&A deals and investment volume in AR/VR proves that this young and evolving market is highly promising and attractive. Large tech companies are hungry for AR/VR innovative startups. Digi-Capital calculated that the AR/VR deal volume in 2016 amounted to \$2.3 bn with the highest acquisition, that of hardware player Magic Leap, raising \$793.5mn at a \$4.5 bn valuation¹⁴.

Digi-Capital AR/VR revenue (\$bn) forecast
Source: Digi-Capital

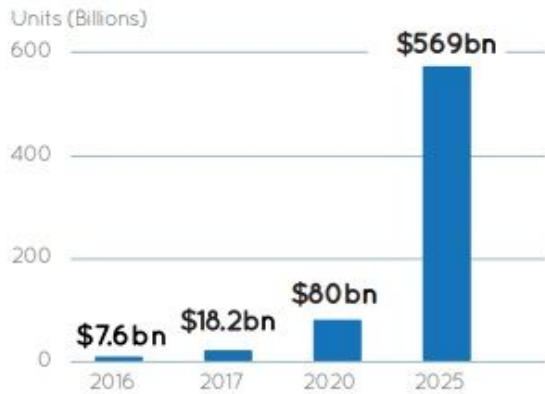


Digi-Capital AR/VR investments (2016)
Source: Digi-Capital

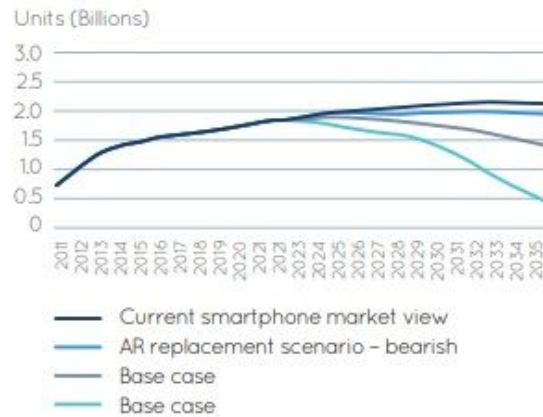


Citi in its Citi GPS: Global Perspectives Solutions 2016 report on virtual and augmented reality evaluated the current AR/VR market at \$7.5bn, with \$3.9bn attributed to software, content and services. The bank's analysts believe the focus will shift from AR hardware to software and expect the latter to reach \$276bn by 2025¹⁵. From there, Citi says, AR headsets will start replacing smartphones and finally overtake the current market of mobile smartphones. AR smart glasses may even be the primary device for phone calls and data transmission. Also AR commerce is predicted to take the place occupied by e-commerce today. The purchases made by users on smartphones in the next few years will be made using AR, so the usage of AR will also be similar to that of mobile smartphones today.

Citi VR/AR market scale forecasts
 Source: Citi Research

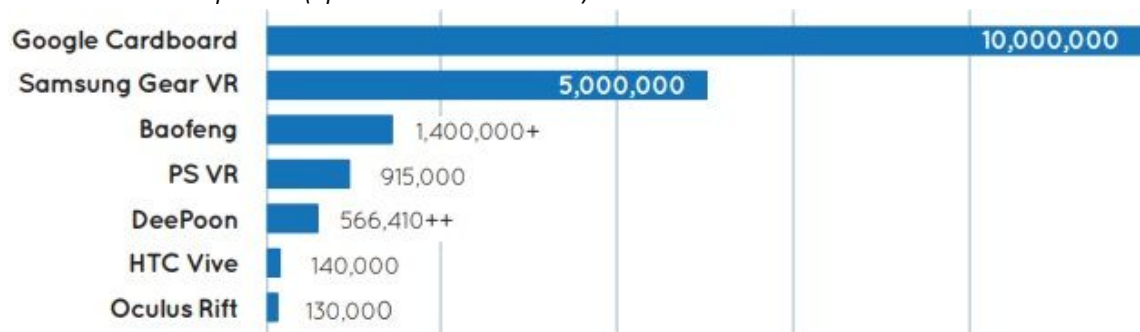


Citi AR headset market growth in expense of the smartphone market
 Source: Citi Research



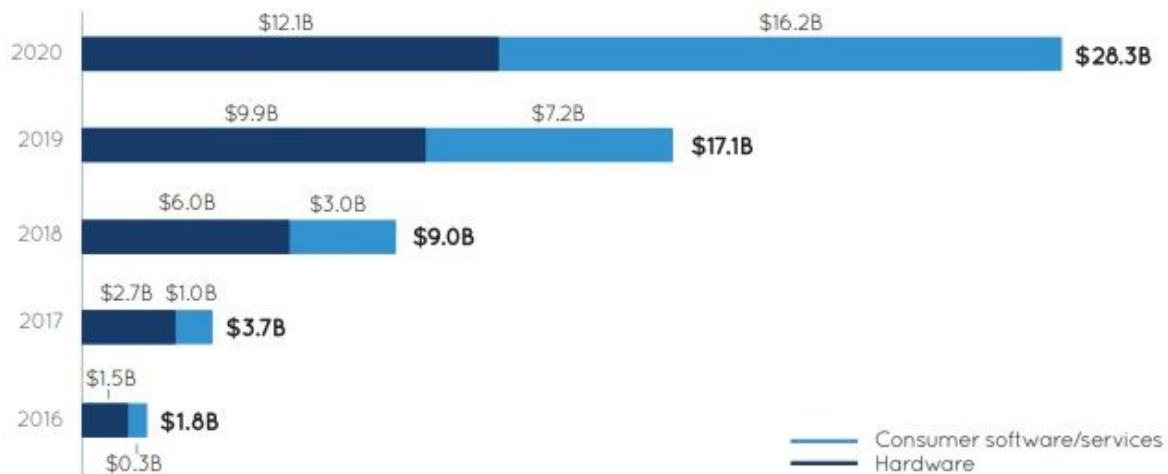
Citi expects the VR disruption to begin with the gaming industry, expanding further to entertainment activities such as live events, theme parks, movies and TV programs. In the report, Citi predicts around half of existing games will be converted to the VR format, which will become the main format for the game industry. Another application is a substitute for the virtual tours offered on websites. It also has the potential to reshape the main tools used for conferencing systems. The other area that would be affected by VR is the movie industry. As of March 2017, the total number of leading VR HMD platforms sold is reported to be 18,151,410 units¹⁶.

Total VR HMDs sold (leading platforms): 18,151,410
 Source: thevirtualreport.biz (updated 3rd March 2017)



Worldwide virtual reality revenue by segment

Source: SuperData Research

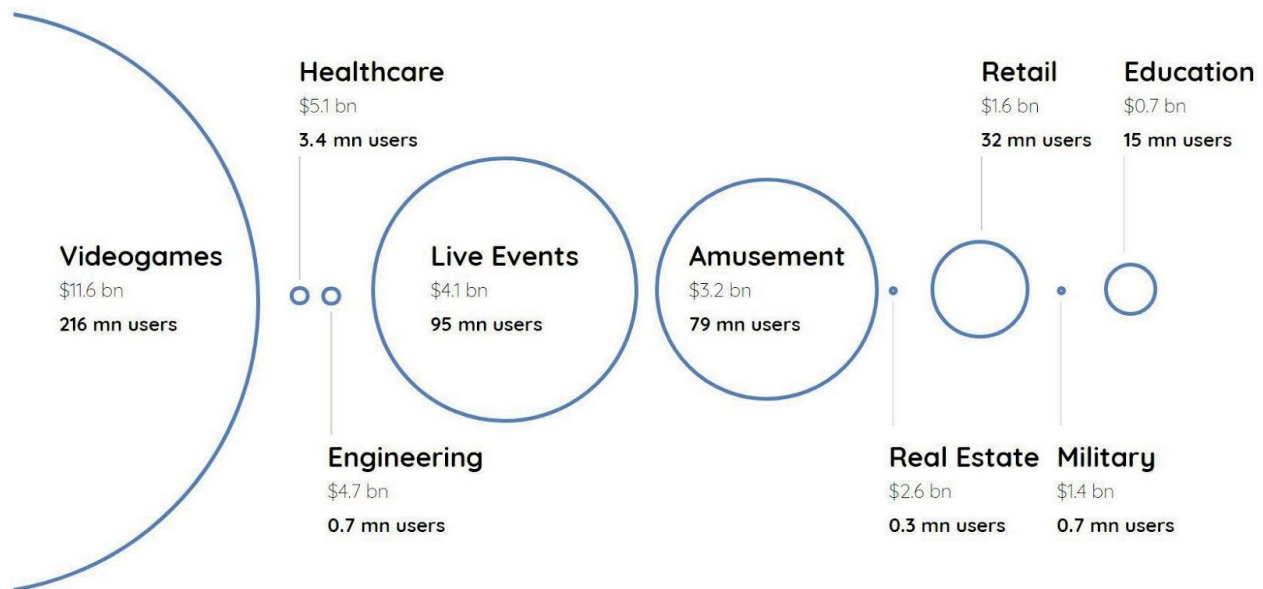


According to Superdata Research's cautious estimates, the VR market in 2017 will grow more than twice in comparison to the last year (from \$1.8bn to \$3.7bn) and will see a 15-fold increase by 2020. The major driver of growth is seen to be VR software and compelling content estimated to reach \$16.2bn and surpass hardware earnings for the first time by 2020¹⁷.

Goldman Sachs estimated the AR/VR market value by industries and engaged users in its first report of the Profiles and Innovations series dedicated to Virtual and Augmented Reality and published in 2016. According to the investment bank, AR/VR will shake up markets to the tune of \$80bn by 2025, where the software market will occupy \$35bn with 60% of AR/VR software revenue driven by the consumer (vs. enterprise¹⁸). The technologies promise to affect the business landscape across many industries.

Total addressable AR/VR software market

Source: Goldman Sachs Global Investment Research



AR/VR implemented across various industries

Meanwhile AR/VR technologies have been recently sneaking into various industries for both businesses and consumers. VR dominates primarily in the videogame industry nowadays, although it has already been implemented in far more cases. Sotheby's uses VR technology to show homes for their clients without an agent¹⁹. 3D tours allow virtual visitors to immerse themselves into the atmosphere of their luxury homes without even setting a foot inside. The tours are created using special cameras placed strategically throughout a home. Ford is applying VR technology for design and engineering purposes. The main aim of the Ford Immersive Vehicle Environment lab (FIVE) is to help engineers and designers improve their early concepts²⁰. The lab gives them the opportunity to experience a concept before a physical prototype is produced. FIVE also enhances international collaboration between designers and engineers thus helping to achieve the goal.

One of the most innovative companies in 2017, as ranked by Fast Company, Next VR created a platform that allows users to view live events in virtual reality creating an even more immersive experience²¹. They have already partnered with CNN, FOX Sports, HBO/Golden Boy. Spectators may watch the International Champions Cup or the NBA finals as if they were there in person. In the near future, VR is expected to become indispensable for different kind of trainings and educational programs, as well as for the real estate and entertainment businesses.

AR has become a widely discussed phenomenon in 2016 due to the success of the Pokémon Go game. Nevertheless, AR has great potential to change the landscape of professional fields such as engineering, design and surgery, where instant access to certain information is of the utmost importance. At the same time, AR is revolutionizing the e-commerce field.

Amazon has recently acquired two patents, demonstrating its interest in AR technology²². The first patent, titled “Augmented Reality Representation,” allows users to “try on” different products using data from e-commerce websites with the help of cameras and sensors. This technology may help diminish the number of returns, as customers will be able to try the product before purchase. The second patent, titled “Forming a Representation of an Item with Light,” describes a technology that projects a product’s image into a room. For users it means they get an opportunity to see how a piece of furniture they like would fit into the exact room they have in mind. Other large online retailers such as Alibaba are also taking proactive steps to integrate AR into their current business, in hopes of improving the customer experience, increase their conversion rate and engage millennials²³.

The AR/VR value chain

Being a highly advanced technology field, the AR/VR market comprises hardware, software and content segments. The value chain of the AR/VR market is made up of four segments that may be represented as follows:

Infrastructure	Tools and platforms	Applications and content	Users
HMD / AR Glasses / Cameras / Hardware	SDK and software	AR/VR images	Users of content

Source: BOM “Virtual reality. Augmented reality. Hype or serious business?” 2017 report²⁴

Here, the infrastructure segment stands for all AR/VR hardware such as headsets, goggles, mobile interfaces, etc., and is mainly driven by top-tech companies. Other stakeholders include users (the demand side) and developers and content creators (the supply side). Users consume AR/VR content via various applications, while content creators and developers supply those applications. The latter are involved in infrastructure development as they build toolkits and software compatible with a specific hardware platform. AR and VR technologies are evolving separately; the main market players and breakthroughs will be reviewed in [Appendices](#).

AR/VR industry hurdles

Lack of compelling content



Just as content was the fuel that launched many successful technology products, our respondents clearly believe that high-quality and robust content is key to moving the AR/VR industry forward.

Kirk Soderquist, co-chair of Perkins Cole's
Interactive Entertainment practice

Although various big market players have launched their own VR hardware, not many people use it on a regular basis, and it is still far from becoming mainstream. One of the top reasons is the lack of compelling content²⁵. Inadequate content was named by 38% of the respondents of the survey by Perkins Coie and Upload as the main challenge facing the AR/VR industry²⁶. The survey encompassed more than 650 respondents including IT startup founders, executives of technology companies and investors.

The value chain of any technology intensive industry can be described as follows: infrastructure, tools & platforms and content. Value for the user is created when all the segments are developed and optimized. AR/VR finds itself in a kind of "chicken or egg" situation. The demand for AR/VR hardware will be slow to pick up unless the users are provided with quality content and services. On the other hand, the content and services will remain slow to develop and prosper unless there is a demand for AR/VR headsets.²⁷

At the dawn of the Internet in the first half of 1990s, only a few people had access to the Internet and the content was rather expensive and of limited value. Due to constrained computer power and bandwidth the first pages could be filled only with text. Tools and platforms were prohibitive for general users as it required HTML, Javascript and coding skills. Then, step by step, the Internet evolved into a commodity accessible to everyone.

The situation currently observed in AR/VR industry is very similar to when the Internet appeared. The content generation is resource consuming and pricing is prohibitive for end-users. The choice in stores of Oculus and HTC Vive is limited and the added value is still low²⁸. But the infrastructure and tools are gaining momentum. Smartphones' high resolution displays and 3D graphics processors combined with mobility have already made them good AR/VR devices. New emerging software platforms like Apple ARKit, WearVR, and that of Facebook promise to deliver easier and

cheaper VR content creation than is available now with Unity and Unreal Engine development tools.

AR/VR content needs to keep up, as it is not unreasonably believed to be a potential catalyst for AR/VR expansion.²⁹ The appearance of high quality content bases contributed to huge breakthroughs in many areas of artificial intelligence. For instance, take ImageNet³⁰ database's impact on the computer vision field. The majority of AI achievements were preceded by the availability of large open datasets, although the key algorithms were developed well before that³¹. Other examples include the algorithms needed for speech recognition or Google Arabic/Chinese to English translation. It was actually the corpus of Spoken Wall Street Journal articles that led to the breakthrough in human speech recognition, three years after the formation of the corpus and 10 years after the development of the Hidden Markov Model that lies at the core of recognition technology. In a similar fashion the statistical machine translation algorithm was first introduced in 1988, but only the collection of 1.8 trillions tokens from Google web and news pages in 2005 empowered Google translation from Chinese and Arabic to English.

Just as with AI, the disruption in AR/VR may happen as soon as developers get access to enough AR/VR and 3D content, widespread and affordable content which is compatible with the variety of available platforms and hardware.

Envisioned solution



...it is important to have lots of content creators working together now, because the technology companies have got the technology to a stage where the industry and consumers are ready for it. But I think it is now content creatives that will drive the next wave of improvement.

Neil Graham, Executive Producer at Sky Studios for Citi

It is indisputable that content is one of the major drivers that will boost AR/VR development. Therefore, the future of AR/VR technologies largely depends on content creators and on the opportunities the AR/VR industry will unveil for them. Content makers should feel like empowered and appreciated members of a larger AR/VR community.

Unfortunately, the AR/VR field has not been consolidated like the machine intelligence community, but it is coming along. It has recently started segregating into a separate discipline

while new AR/VR academic programs are emerging. So, all efforts and actions aimed at bringing our community together under one roof are coming at just the right time. Though we need to be sure that all community members are equally respected: be they platform and tool suppliers, content makers or content consumers, such a requirement can only be met by a decentralized organization or an ecosystem that doesn't pursue one party's business success metrics.

The solution should provide content makers with easy and scalable tools for content generation in order to engage new artists and stimulate content exchange. To facilitate transaction flows among the parties, digital currency will be highly valuable as it will help to globalise the ecosystem and avoid complexities in money transferral.

We believe that such an environment may be able to compensate for the shortfalls of AR/VR/3D content as well as act as a valuable springboard to boost AR/VR industry growth and to create the conditions to meet its market volume projections.

Cappasity background

Cappasity: how it all began

The Cappasity story began when a team of professionals with a strong record in 3D gaming participated in a project which required a large number of 3D models. To the team's surprise, the creation of a single game character took up to two weeks. In order to facilitate the process and make it cheaper the team designed a prototype of a 3D scanner. Soon it became clear that 3D content production and integration could be deployed in more industries than just gaming: e-commerce, engineering, the automotive sector, etc.

This is when Cappasity was established, with the aim to develop an easy and a fast platform for 3D content mass-production. In 2013, being a young and ambitious company, we seriously examined the retail and fashion industries, as this market was starving for new AR/VR and 3D visualization solutions for their businesses. E-commerce is the ideal medium for such innovations: consumers enjoy trying on clothes in online stores before buying, studying products closely, and using their tablets to see if a chosen piece of furniture fits into the bedroom, etc. Willing to take a chance, we decided to tap into this emerging industry, which demonstrates an extraordinary growth rate.

Until recently, 3D technology was time-consuming and not suitable for mass production. For instance, 3D scanners were (and still are) rather expensive and the creation of a single 3D image took up to 30 minutes. That didn't meet the fast-paced requirements of fashion and online retail when new catalogues contain thousands of items and catalogue updates occur every two to three months. Moreover, previously available 3D scanning technologies were not tailored for the specifics of fashion merchandise. They failed to capture textures such as transparent elements, glistening surfaces or black matted surfaces. The resulting 3D image files were heavy, slowed web page download and negatively affected the view time.

Cappasity set its sights on developing tools to revolutionize AR/VR and 3D technologies — and succeeded. We introduced a professional 3D digitizing solution comprising:

- Easy 3D Scan® software, which generates a 3D image in two to three minutes and is capable of digitizing thousands of items per day.
- 3D View a new format, revolutionizing the concept of 3D digitizing.

This format does not overload a website with heavy traffic: The download rate is four times faster on average, as we are streaming the data and enable users to interact with an object if only 30% of it is downloaded.

- 3D Hologram - a new format, compatible with various AR/VR devices.
- SDK used for synchronization with product catalogs: We implement Cappasity tools for customers' e-stores; Additionally, Cappasity tools show better compatibility with various browsers than most comparable alternatives.
- Cappasity.AI to analyze customer interaction with 3D content and provide a customer interest heatmaps for each product.

We deliver a 3D digitizing solution that has become easier, faster and much more friendly than could be imagined a couple of years ago. Over more than four years on the market, we have attracted the attention of leading brands: We established relationships with large merchants and fashion brands. Top luxury retailers have announced conversion increase by 10-40% after implementing 3D imaging, and 91% of customers say they want to have the option to have a 360-degree view of products.

The Team

The Cappasity founders have been working with 3D technologies for more than 15 years. Initially, they started with PC projects and moved on to video and mobile games.

Read about us and our advisors - <https://cappasity.com/about-us/>

Cappasity Ecosystem

How it all works: a schematic overview

The 3D is a nascent and highly prospective field. However, the lack of quality content is a serious obstacle that may put 3D disruptions on hold for decades. To unlock 3D's potential, Cappasity, an established trusted player, is launching a community-friendly 3D Ecosystem which is capable of solving the 3D content issue. The Ecosystem is designed to provide its participants with engaging economic incentives to store and embed self-created 3D and other AR/VR content. Additionally, we propose to use a proper utility token (CAPP) as the primary payment vehicle for all transactions within the Ecosystem.

The Cappasity ecosystem is used by enterprises and ordinary users. The ecosystem encompasses a content storage, a decentralized copyrights storage, CAPP Wallet, Internal Exchange, API for the third-party developers, free utilities and modules allowing users to connect to the platform via websites, mobile and AR/VR applications

Ecosystem participants

Developers

App and web developers having a need for AR/VR/3D content with the purpose of app creation or content integration on a website. They may also build apps based on the Cappasity platform.

Enterprise and SMB

Corporations or SMBs who consume AR/VR/3D content through the Cappasity's embedding tools

Consumers

Anyone having a need for 3D, other AR/VR content such as 360-degree video and released apps for personal use. They will be active users of 3D capturing mobile app.

Ecosystem key elements

Marketplace

The Marketplace functions as a content rent area where 3D and other AR/VR content exchange happens among the Ecosystem community.

Copyright Storage on Blockchain and CAPP transactions

Each Cappasity Token transaction between Ecosystem participants is immutably stored in the blockchain and cannot be reversed. Once a transaction is done, it will be processed according to a smart contract protocol. Blockchain transactions will contain such facts as copyright information, content owner and author (if different), transfer of the rights for commercial use (if any), as well as purchase and license details.

The CAPP tokens are Cappasity's digital asset and their main utility is the creation of a digital license for the content stored on the Cappasity platform or partners' platforms.

CAPP tokens enable us to encode copyrights to store them in the blockchain, this process cannot be done without the tokens. We will provide users with an API to validate copyrights or retrieve data of a particular piece of content.

CAPP Wallet

Wallet for CAPP transactions.

Internal Exchange

Service to buy CAPP for Business clients who wants to pay with PayPal.

Software tools & SDK

Cappasity platform software tools, SDK, API, frameworks.

Ecosystem structure

In order to keep the AR/VR/3D content creation and exchange experience smooth for all participants, the Cappasity Ecosystem will rely on the Cappasity technological platform with a variety of useful toolkits and an open API.

For instance, Easy 3D Scan software is indispensable for mass 3D View content generation. In contrast to complicated photogrammetry techniques, the tool can equip every person with the ability to easily create quality 3D content of real objects and put them up for sale.

The Cappasity platform supports a multitude of 3D model formats. The Cappasity platform formats (3D View and 3D Hologram, U.S. Patent Pending) were designed to easily share and embed 3D images to websites and AR/VR apps. The first one is tailored for websites and mobile apps, the latter is better suited for AR/VR apps and hardware. To support the proper formats in other development environments such as Unity and Unreal Engine, plugins are available for developers. Also imported 3D model formats can be easily converted to 3D View or 3D Hologram for embedding and sharing convenience.

The platform will provide developers with SDK to:

- Integrate 3D content with third-party apps and SDKs
- Integrate 3D capturing with third-party mobile apps
- Access 3D content from AR/VR apps

The platform will provide its API to upload content to one of the databases and to access platform complementary features, namely:

- *Embedding solution* — open-source tools and plugins for apps and web developers that allow them to integrate 3D View and 3D Hologram formats.
- *Cappasity AI* — an analytical tool for designers and marketers that analyzes customer interaction with 3D and provides a customer interest heatmap for each 3D image. The tool can be integrated with Content Management Services.
- *Remeshing solution* — a tool for a better discrete representation of 3D model surfaces. Mass market devices can't handle complex polygonal models, so polygon optimization is needed to run AR/VR/3D apps on such devices. On the contrary, the tool allows users to increase the number of polygons to achieve a better output quality for 3D printing.

Blockchain for copyrights

The Ecosystem participants (platform users), i.e. content creators, app developers, businesses and consumers, need to be ensured that their copyrights are respected. That's why all content production or exchange details are immutably stored in the blockchain.

To prevent the infringement of copyrights, each content file is assigned with an ID or a hash value. The hashes of all the files submitted to the Cappasity platform are listed in the blockchain and cannot be altered.

Milestone roadmap

Latest version of roadmap:

<https://trello.com/b/z4OZeLKW/cappasity-roadmap>

Conclusion

We are introducing the first platform that solves the problem of creating and embedding 3D and AR/VR content in an affordable way.

The Cappasity ecosystem is used by enterprises, SMB and ordinary users. The ecosystem encompasses content storage, a copyrights storage, CAPP Wallet and internal exchange service, API & SDK for third-party developers, free utilities and modules allowing users to connect to the platform via websites, mobile and AR/VR applications.

We're working on a whole lot of new features and tools. Curious to know more?

<https://cappasity.com/tech>

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