

EVERYTHING YOU NEED TO KNOW ABOUT

METaverse DEVELOPMENT



SUMMARY OF TOPICS

- Our Past Work
- About Metaverse
 - What is Metaverse?
 - Popular Metaverse Platforms
 - Industry Use Cases
 - Features of Metaverse
 - Metaverse Development Process
 - UI Design
 - UX Design
 - 3D Design
 - Technology Used in Metaverse
 - Metaverse Technology Layers

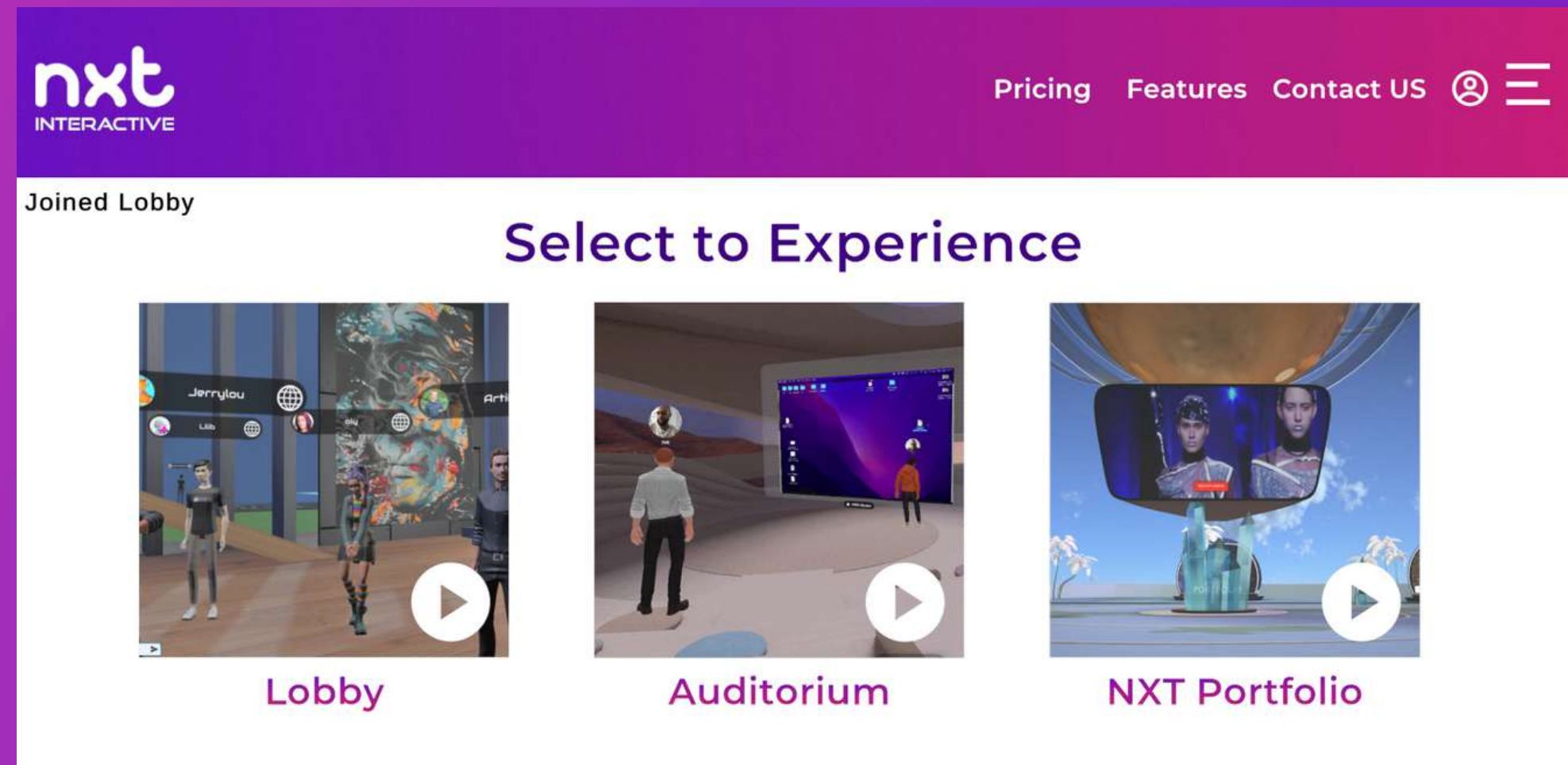
SUMMARY OF TOPICS

- About Metaverse
 - Centralized VS. Decentralized Platforms
 - Uses of Blockchain, Crypto and NFT in Metaverse
 - Servers and its cost
 - Our Development Process
 - Pricing

OUR METAVERSE SOLUTIONS

NXT METAVERSE SOLUTION

- NXT Metaverse in Singapore is our own Metaverse that showcases our capabilities and our past work in an interactive way
- Consists of a custom auditorium, custom room lobby and virtual portfolio on Unity, which allows users to register, log in, select or customise avatars, dd host company decks, event youtube videos, photo booth, virtual games, custom 3D models, video/audio/gif content, user analytics, etc.



NXT Metaverse

BIFW METaverse EVENT 2022

- Bangkok International Fashion Week (BIFW) 2022 in Singapore with a custom auditorium, custom rooms and virtual public space on ReactJS, which allows users to register, log in, select or customise avatars, customise the space, add host company decks, event youtube videos, photo booth, virtual games, custom 3D models, import 3D libraries, video/audio/gif content, user analytics, live telecast of the physical fashion show, etc.



WEB 360 METAVERSE SPACE



- We developed a 3D life-like virtual replica of their new showroom. To enhance the experience of a user in an engaging manner within the store, we used intrinsic Animations, & Web Virtual Reality. We also utilized a combination of optimised 3D Models, lighting & texturing that brought a real look to the laminate textures.



SHISEIDO METaverse PRODUCT LAUNCH

- Shiseido product launch in Singapore with a custom auditorium, custom rooms and virtual public space on ReactJS, which allows users to register, log in, select or customise avatars, customise the space, add host company decks, event youtube videos, photo booth, virtual games, custom 3D models, import 3D libraries, video/audio/gif content, user analytics, etc.



SHISEIDO

SEPHORA METAVERSE PARTY



- Sephora virtual event in Singapore with a custom auditorium, custom rooms and virtual public space on ReactJS, which allows users to register, log in, select or customise avatars, customise the space, add host company decks, event youtube videos, photo booth, virtual games, custom 3D models, import 3D libraries, video/audio/gif content, user analytics, etc.



CHANEL D&D 360 SPACE



- Chanel virtual event in Singapore with a custom auditorium, custom rooms and virtual public space on ReactJS, which allows users to register, log in, select or customise avatars, customise the space, add host company decks, event youtube videos, photo booth, virtual games, custom 3D models, import 3D libraries, video/audio/gif content, user analytics, etc.



IESA VISION SUMMIT 2020

- IESA vision summit with a custom auditorium, custom exhibition space, virtual public space, custom exhibition booths, NPCs and audio/video features on ReactJS, which allows users to register, log in, add host company decks, event youtube videos, photo booth, virtual games, custom 3D models, import 3D libraries, video/audio/gif content, user analytics, etc.



METaverse NFT MUSEUM

- Metaverse NFT Museum with a custom exhibition space, custom avatars on PlayCanvas, which allows users to register, log in, add NFTs, youtube videos, photo booth, virtual games, custom 3D models, import 3D libraries, video/audio/gif content, etc.



METaverse EXAMPLES

BIFW 2022 Metaverse

Login: na@yy.com

Password: 123

Chanel 2022 Metaverse

Login: test1@event.com

Password: 123

Sephora 2022 Metaverse

Login:

harshit@digitaljalebi.com

Password: 123

METaverse EXAMPLES

IESA VISION SUMMIT

Name: Use any made-up name
Email ID: Use any valid email
address

Metaverse NFT Museum

Web 3D 360 Spaces

Shiseido 2022

METaverse

THE TERM ORIGINATED IN THE 1992 SCIENCE FICTION NOVEL **SNOW CRASH**, AS A PORTMANTEAU OF "**META**" AND "**UNIVERSE**".

BUT IT HAS BECOME QUITE A POPULAR TERM DURING THE
LAST COUPLE OF YEARS

LET'S LEARN WHAT IT'S ALL ABOUT

ABOUT **METaverse**

WHAT IS METAVERSE?

The metaverse is an open and accessible three-dimensional virtual world with multiple shared and persistent digital spaces. Users can enter the metaverse as digital avatars and interact with other users in the metaverse alongside performing other transactions.



POPULAR METAVERSE PLATFORMS

- Decentraland
- The Sandbox
- AXIE INFINITY
- Roblox
- MetaJupiter
- Bloktopia
- Zepeto
- Gather

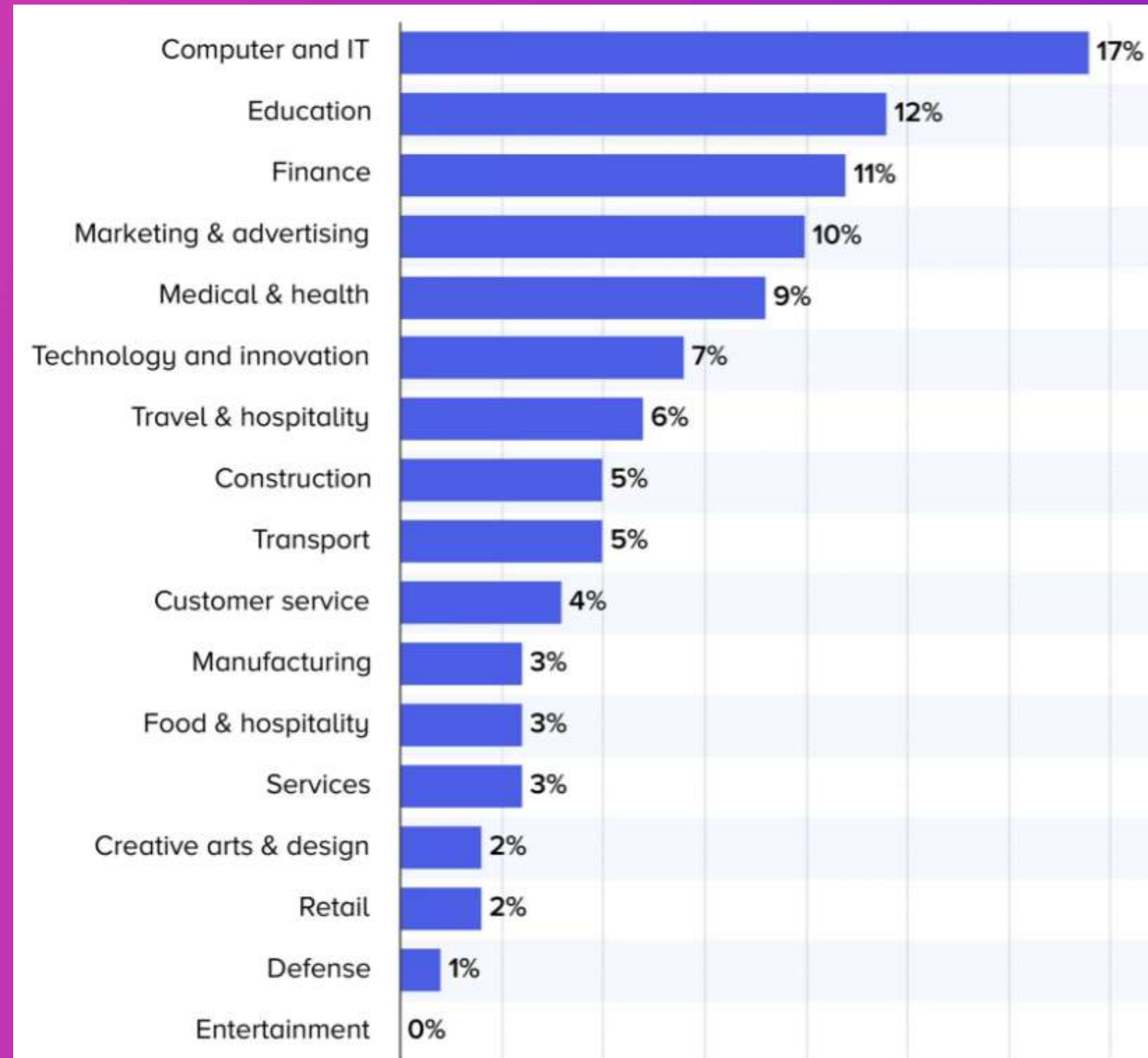


METaverse FOR BUSINESSES

WHAT DOES METAVERSE MEAN FOR BUSINESSES?

- Metaverse is going to take the advertising to another level using unique storytelling experiences in 3D technology.
- The interoperable concept in Metaverse project helps businesses to conduct and enter any event digitally.
- Brands can interact with the global audience through Metaverse in the ecommerce business framework despite the geological barriers.
- Metaverse also supports digital wallets which means enterprises can regulate seamless transactions across its virtual ecosystem.

LEADING BUSINESS SECTORS WORLDWIDE THAT HAVE INVESTED IN THE METaverse AS OF MARCH 2022



THOSE ARE QUITE A NUMBER OF **INDUSTRIES** INVESTING A
GOOD AMOUNT OF **MONEY** IN THE **METaverse**

BUT HOW EXACTLY CAN WE **LEVERAGE METaverse FOR**
BUSINESSES?

LET'S FIND OUT

METaverse INDUSTRY USE CASES

GAMING INDUSTRY

- A fully-fledged social environment where every user stays connected
- Offer the ability to play and earn cryptocurrency
- Players can smoothly switch between various formats of communication within the virtual world.



**Experience
Here**

METaverse INDUSTRY USE CASES

TRAVEL AND TOURISM INDUSTRY

- The technology lets you travel in a virtual environment
- With the 360° virtual tour, you can not only watch the location recorded but also be present digitally in the desired location with realistic effects



METaverse INDUSTRY USE CASES

EDUCATION AND LEARNING

- Students can now watch live experiments with more intensive and high quality knowledge resources
- A recent video in New York exhibits school students learning astronomy in a virtual spaceship rather than in a classroom



METaverse INDUSTRY USE CASES

REMOTE TRAINING

- With VR training, the employees can be trained using a simulated experience
- Metaverse fuses corporate training with experiential training where the company workforce has access to videos, manuals, audios and various digital environments.



Example

METaverse INDUSTRY USE CASES

REAL ESTATE INDUSTRY

- With Metaverse property tour options, the realtors do not have to travel to the site, the clients do not need to waste time traveling to dozens of properties
- The virtual tour in Metaverse can be adapted to the client's scale, taste and design.



METaverse INDUSTRY USE CASES

HEALTHCARE INDUSTRY

- Patients and doctors can now interact in virtual 3D clinics
- Metaverse applications where the patients can transport themselves to a relaxed digital environment in case of panic and anxiety



METaverse INDUSTRY USE CASES

BANKING AND FINANCE

- The banking metaverse gives a 360-degree overview of physical banks from any location
- Metaverse is also the biggest advantage to banking from the perspective of Blockchain, NFT marketplace development and other DeFi cryptocurrency assets



METaverse INDUSTRY USE CASES

SOCIAL MEDIA AND ENTERTAINMENT

- Users have now started communicating using digital avatars and virtual clones



METaverse INDUSTRY USE CASES

FASHION INDUSTRY

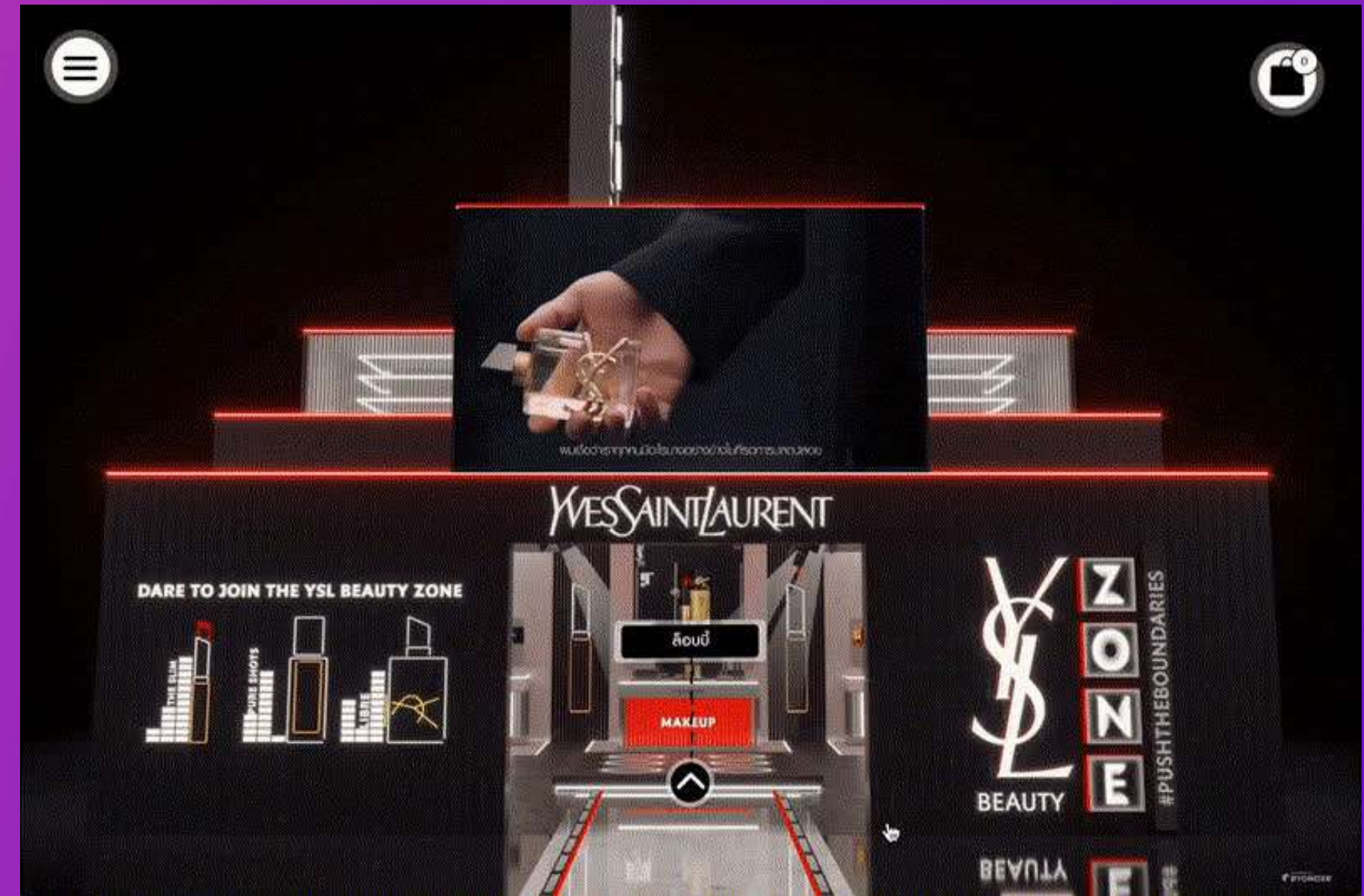
- All your digital needs in one digital fashion services headquarters



METaverse INDUSTRY USE CASES

E-COMMERCE INDUSTRY

- Users can now experience 3D e-commerce platforms where all products can be viewed in 3D
- Users can Try-On products before buying



**Experience
Here**

METaverse INDUSTRY USE CASES

EVENTS INDUSTRY

- A 360 degree virtual space, where users can interact with each other, try different activities, play games, experience photobooth and much more



**Experience
Here**

LOOKS LIKE **METaverse** HAS A LOT TO **OFFER**
FROM A **BUSINESS** PERSPECTIVE

BUT IT'S NOT ENOUGH, IT NEVER IS!

**SO LET'S FIND OUT WHAT ELSE WE
CAN EXPECT FROM METaverse**

FEATURES OF METAVERSE PLATFORM

- Digital Avatars
- Persistent & Limitless
- Collective 3D Spaces
- Custom Virtual Rooms
- Audio/Video Digital Assets
- 24/7 Web Presence
- Expandable Technologies

DIGITAL AVATARS

- AI avatars can interact with multiple emotions, feelings, personalized characteristics, and so on.
- It can be a digital replica of one's role model, superhero, animal, and many more options to choose from.
- A revolutionary experience to interact with other players efficiently without any external meeting.



PERSISTENT & LIMITLESS

- Persistent, limitless 3D spaces that are rendered in real time, where users can move freely as avatars



COLLECTIVE 3D SPACES

- Collective 3D spaces in which users explore, create, play, work, make connections, and do business, without being in the same physical space with each other
- Companies don't "own" the metaverse, since it's collectively shared technical infrastructure



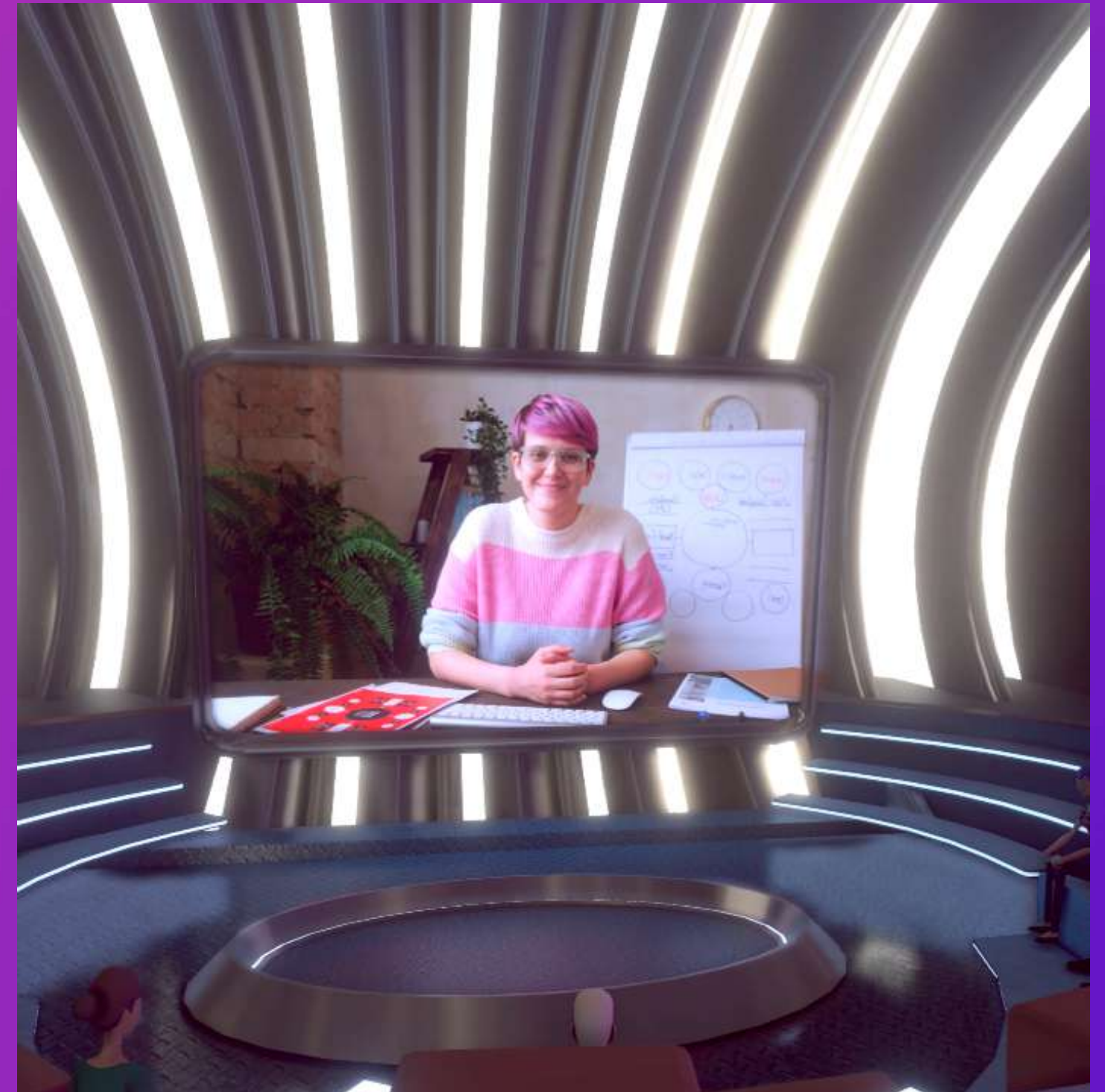
CUSTOM VIRTUAL ROOMS

- Users can create virtual rooms that are freely accessible to other users across devices and systems



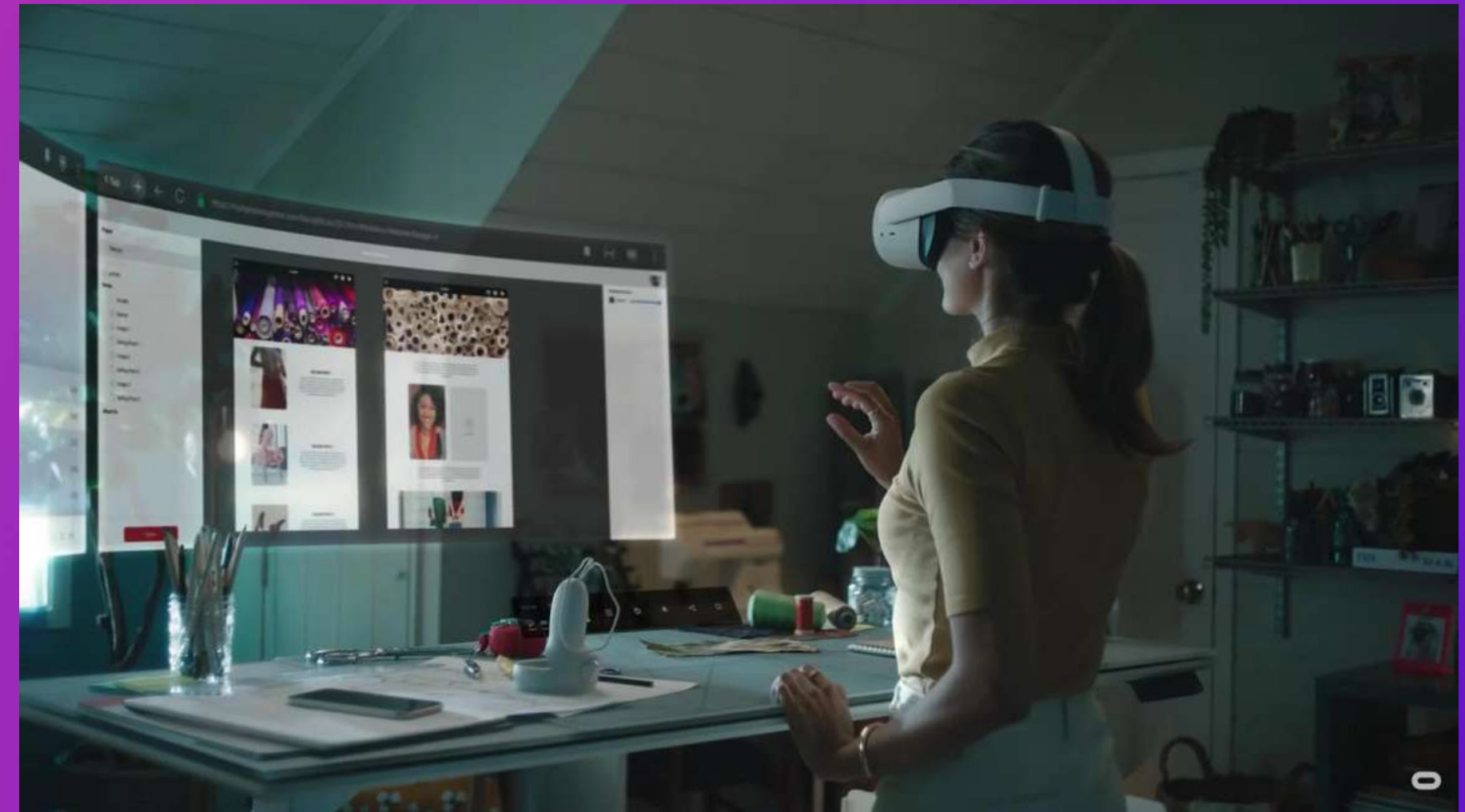
AUDIO/VIDEO DIGITAL ASSETS

- Seat selection feature enabling real life seating experience with viewers
- Two-way interaction using Q&A and Polls with the presenters
- Reactions like heart, like & clap to add-in realistic feedback to the content



EXPANDABLE TECHNOLOGIES

- Extended and mixed reality technologies are used and enable interactions between digital and real spaces, e.g. VR goggles, virtual assistants, smart/voice user interfaces (VUI), neural chips, machine learning, artificial intelligence and artificial neural networks



**I'M SURE BY NOW YOU'RE CONVINCED THAT
METAVERSE IS THE FUTURE**

**SO LET'S LEARN A BIT ABOUT HOW A
METAVERSE IS BUILT**

METaverse DEVELOPMENT PROCESS

METaverse UI DESIGN APPROACH



METaverse DEVELOPMENT PROCESS

METaverse UI DESIGN APPROACH

Animation – It was critical that animations obey physics and move in a natural way. This meant that objects didn't move linearly, which looks unnatural to the human eye.

Spatial Audio – Spatial audio is reactive to the user's position in space. In short, sound volume is a function of distance. This means the closer a user is to a content panel or another user, the higher the audio volume is.

METaverse DEVELOPMENT PROCESS

METaverse UI DESIGN APPROACH

Avatar – Poor digital representations can fall into the uncanny valley, giving the user a sense of unease.

Naviagtion – Camera angles vary between a 1st person view, a 3rd person/dollhouse view, or a 2D overworld map. Each of these perspectives required a lot of detailed description.

METaverse DEVELOPMENT PROCESS

METaverse UX DESIGN APPROACH



METaverse DEVELOPMENT PROCESS

METaverse UX DESIGN APPROACH

Humane – The Metaverse will have a representation of real people. So, by incorporating a good and strong UX in the Metaverse, the interaction within the virtual realm can seem a lot more realistic.

Accessible and Inclusive – One of the key functions of good UX in the metaverse is its ability to enhance accessibility. It ensures every user irrespective of any form of disability can enjoy a similar experience.

METaverse DEVELOPMENT PROCESS

METaverse 3D DESIGN APPROACH



METaverse DEVELOPMENT PROCESS

METaverse 3D DESIGN APPROACH

Create live environment – If you decide to break a house in a city you live, this house will irrevocably disappear for everyone in that city. That's why the majority of creations in the metaverse will be intended to persist.

Use real-world cues to educate users – First-time users who join virtual space will rely on cues learned from the physical world to navigate the virtual space and interact with objects in it.

METaverse DEVELOPMENT PROCESS

METaverse 3D DESIGN APPROACH

Introduce laws of physics – When it comes to metaverse design, it's not enough to create a realistic exposition of houses and streets. It's vital to introduce laws of physics (such as gravity) that will work in that virtual space. The laws should be clear for users.

Introduce an easy way to transfer objects from real to a virtual world – Give users a chance to create a virtual environment themselves. Metaverse should give anyone the power to step into the role of designer and craft spaces and objects that best express who they are.

METaverse DEVELOPMENT PROCESS

METaverse 3D DESIGN APPROACH

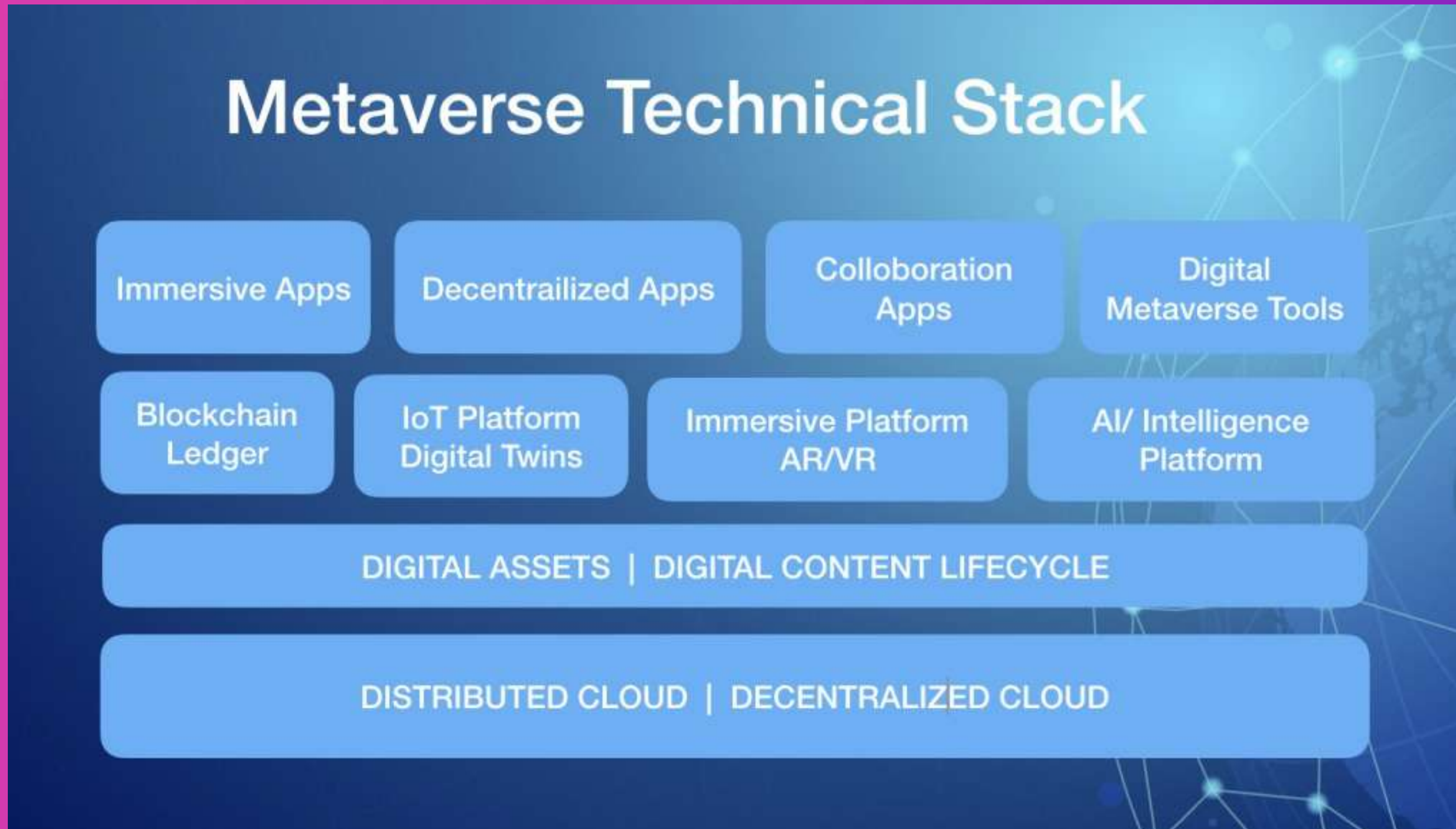
Dynamic Lighting – Lighting can make a virtual space feel much more alive. By introducing dynamic lighting, you will also avoid some limitations that the first versions of metaverse will likely have (such as low texture resolution)

Easy way to import/export 3D models – For the metaverse to thrive, we need to create open standards and protocols that will allow easy import/export from any of those popular 3D rendering tools.

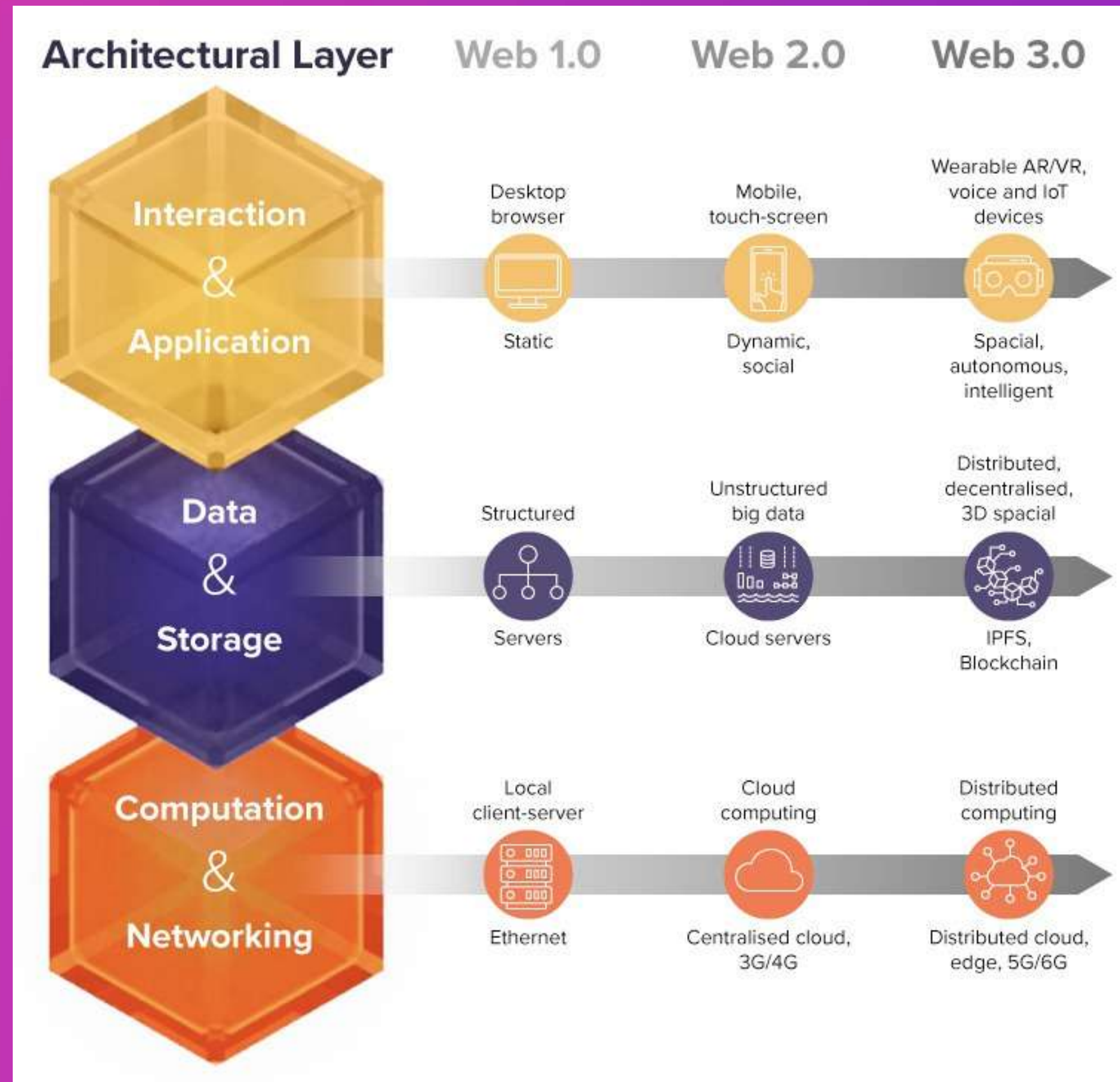
**WOW! THOSE WERE QUITE A LOT OF ELEMENTS REQUIRED TO
BUILD A METAVERSE**

**IF THAT WAS DESIGN, WHAT'S THE
TECH STACK?**

TECHNOLOGY USED IN **METaverse**



METaverse TECHNOLOGY LAYERS



SO IS THERE ONLY **ONE TYPE** OF METAVERSE,
OR ARE THERE **MORE?**

LET'S FIND OUT!

CENTRALIZED VS DECENTRALIZED PLATFORMS

CENTRALIZED METAVERSE – THINK OF A BANK

- Guaranteed that your financial information will consistently be kept private
- Unless you're subjected to fraud or a data breach, you can rest easy that your information will be kept under lock and key
- Run by central entities; governments, companies, and organizations
- There's a certain level of governance and policies in place that can protect their users if their accounts are hacked or if one of their transactions fails
- There isn't as much freedom as a person might experience in a decentralized metaverse

CENTRALIZED VS DECENTRALIZED METAVERSE

DECENTRALIZED METAVERSE – THINK OF A BANK

- Users are allowed to lend, borrow and trade without having to consult an intermediary or escrow, this financial system offers a lot more freedom than you might find in the traditional world
- Operates by using smart contracts that are globally accessible and unregulated by any organization or government. This means that users are given the opportunity to control their finances on their own terms
- The more decentralized the metaverse is, the more control the users have over the government of the project
- Users are entirely responsible for maintaining their own privacy

**A DECENTRALIZED METAVERSE SOUNDS AMAZING!
BUT FEEL FREE TO CHOOSE.**

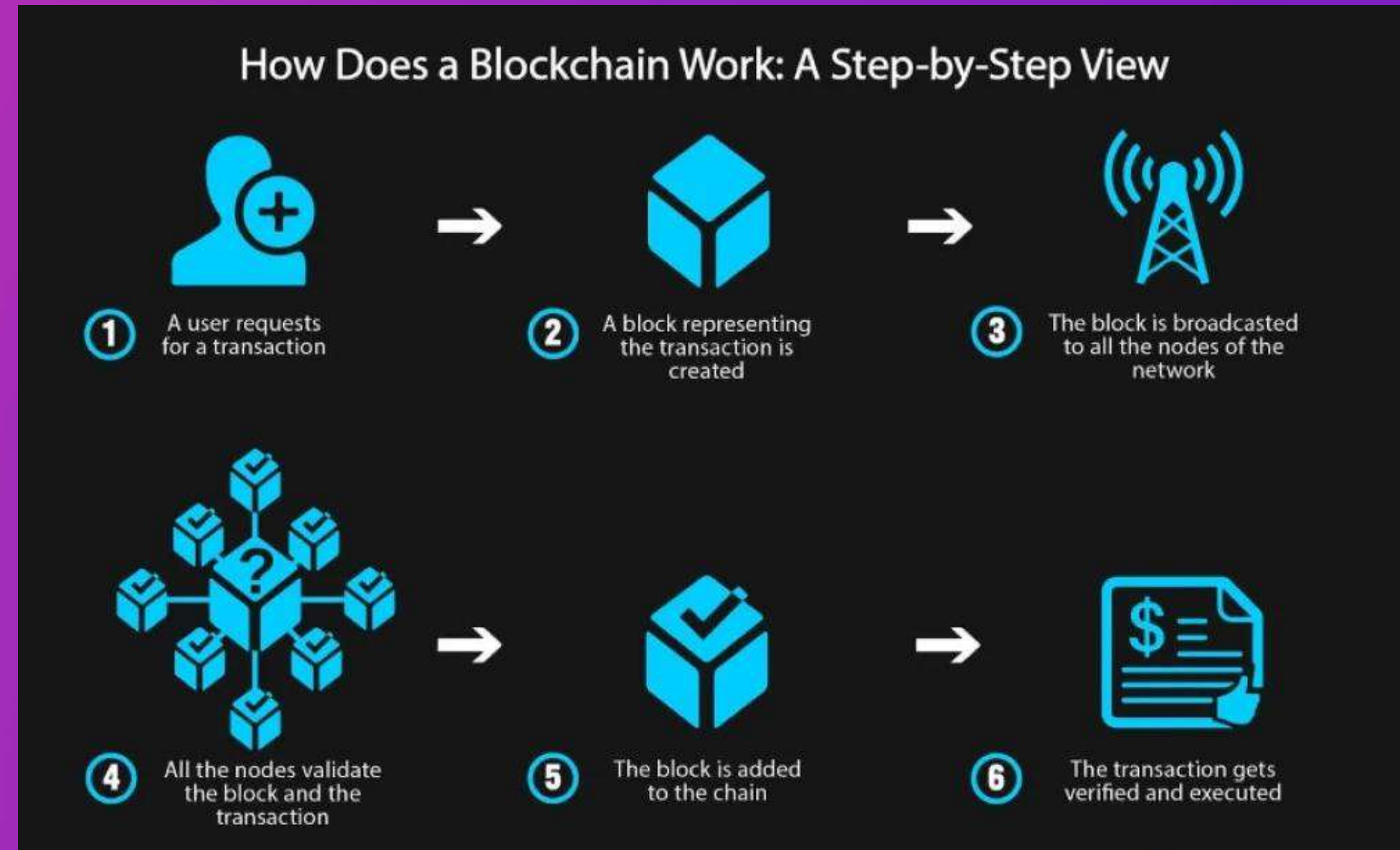
**NOW, IS METAVERSE A STANDALONE PRODUCT OR DOES IT
NEED INTEGRATIONS?**

**LET'S LOOK AT THE BASIC
INTEGRATION REQUIREMENTS IN A
METAVERSE**

USES OF DIFFERENT TECHNOLOGIES

BLOCKCHAIN

- The blockchain serves as an immutable ledger which allows transactions take place in a decentralized manner
- In other words, every action in all the metaverse platforms is logged into an extremely secure ledger called blockchain



USES OF DIFFERENT TECHNOLOGIES

CRYPTO CURRENCY

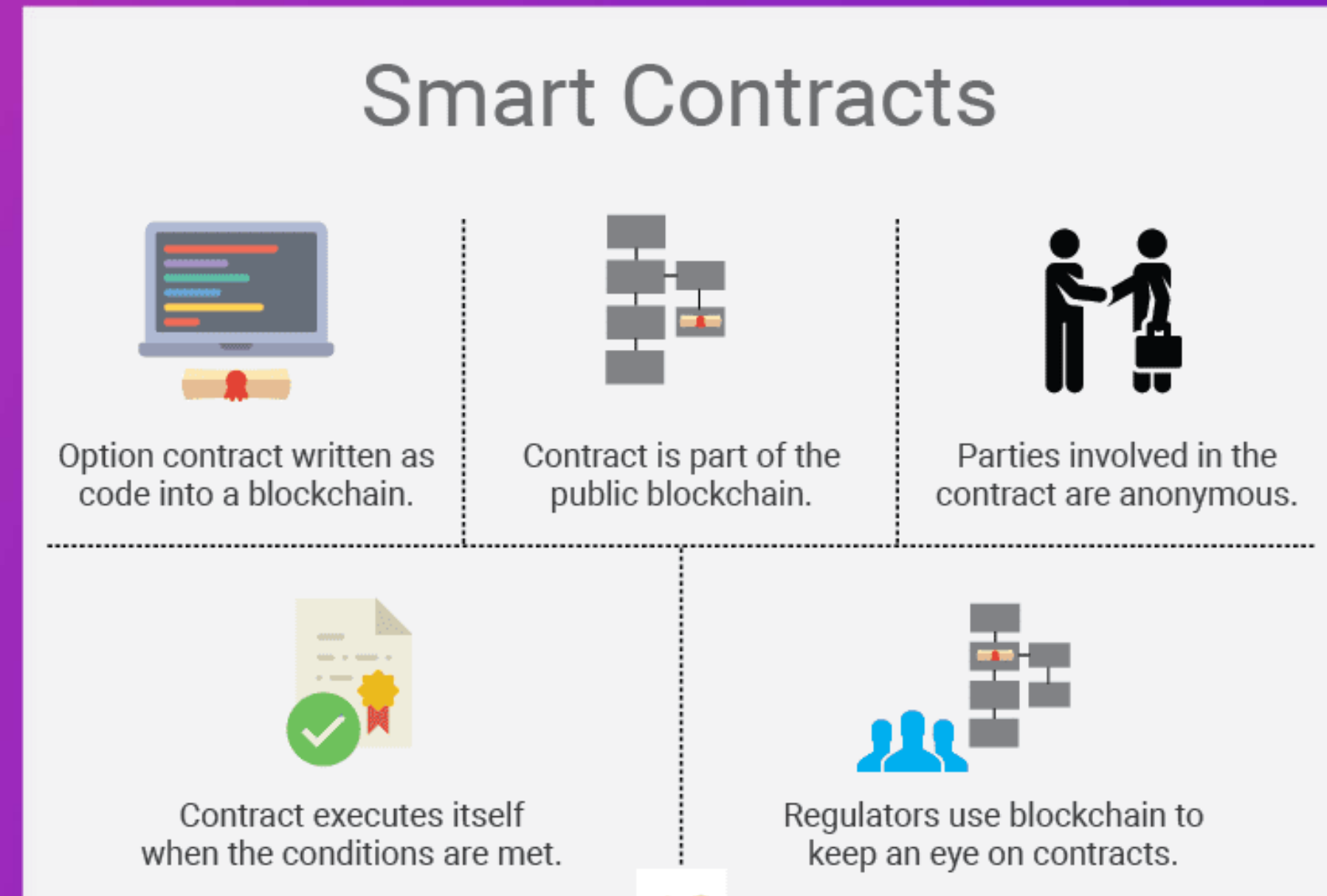
- A digital currency in which transactions are verified and records maintained by a decentralized system using cryptography, rather than by a centralized authority
- In other words, the money with which the user can buy stuff in the metaverse



USES OF DIFFERENT TECHNOLOGIES

SMART CONTRACTS

- A smart contract is a computer program or a transaction protocol that is intended to automatically execute, control or document legally-relevant events and actions according to the terms of a contract or an agreement.
- In other words, what's the proof that a user bought land on metaverse. Show the smart contract



USES OF DIFFERENT TECHNOLOGIES

NON FUNGIBLE TOKENS (NFT)

- Imagine buying a piece of digital artwork on the Internet at a reasonable price and getting a unique digital token known which proves your authority over the artwork you bought. Wouldn't it be great? Well, that opportunity exists now, thanks to NFTs



METaverse SERVERS AND COSTS

- Costs depend on the number of users entering a metaverse, because with each user, the cost of content download/upload, the space usage on the server, etc. will increase/decrease.



**Reference
Link**

NOW WE KNOW EVERYTHING ABOUT METAVERSE

**WHAT PROCESS SHALL WE FOLLOW
TO BUILD ONE?**

OUR DEVELOPMENT PROCESS

Step 1 – Business Idea Analysis

Metaverse development starts with idea analysis. It is the beginning phase of Metaverse development, so take enough time to brainstorm and come up with a unique idea.

Step 2 – Conduct Market Research

Knowing about your competitors, target audience, and different Metaverse-based projects will give you a deep insight into everything. Based on the information you gathered, draw technical documentation highlighting everything, as it will act as a roadmap later on.

OUR DEVELOPMENT PROCESS

Step 3 – Begin UX/UI Development & Prototyping

Create the information architecture of the system, develop & optimize the user flow, and design the user interface.

Step 4 – Begin Metaverse Development Process

The experts always divide the project into small chunks, so ask them about timely work reports to keep an eye on your work process. To make your Metaverse app stand out, incorporate the latest tech stack as per your budget and business requirements.

OUR DEVELOPMENT PROCESS

Step 5 – Test & Deploy Your Metaverse App

The professionals carefully test the product against bugs, usability, functionality, and compliance with all the specifications prescribed in detail. The process takes up to 20% of the development time.

Step 6 – Launch The Metaverse

Finally, when you complete all the five steps mentioned above, launch your Metaverse app successfully and deploy it to a local and cloud server.

THE METAVERSE DEVELOPMENT PROCESS IS CLEAR

HOW MUCH WOULD IT COST?

HOW MUCH DOES IT COST?

An average cost to build a Metaverse **app** lies between \$300,000 to \$600,000 and more, depending on the application requirements.

But, as we all know, developing a Metaverse requires more effort and time, so the cost will vary accordingly. Also, it requires expertise to craft a perfect Metaverse-based business app.

FACTORS THAT AFFECT THE COST

Which factors can affect the development cost?

- 3D Modellers – Inserting it will make your Metaverse alive and grab the users' attention in no time.
- Decentralized Database – It helps to split the workload among multiple machines and leverages sophisticated algorithms to keep things balanced and on track.
- Dedicated Developers – Metaverse development process requires expertise, so you will have to hire dedicated developers for the same.
- UX/UI Designers – You will have to hire a UX/UI designer who can create an amazing and unique design for your Metaverse application.
- Features, Tech Stack, & Other Elements – If you are planning to create a unique Metaverse application for your business, you will need to incorporate the unique features

THANK YOU.

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