

The METAVERSE

The NEW era of INTERNET



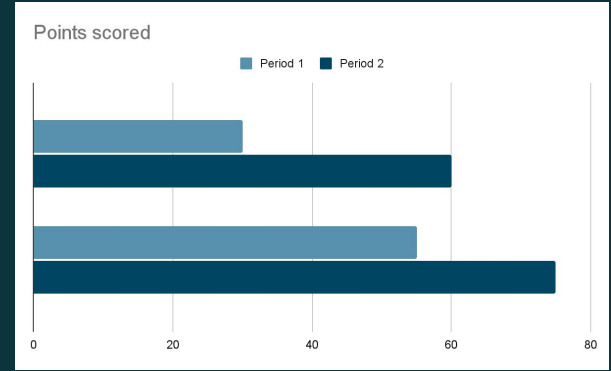
Brief History

- The term “**METaverse**” was first used by Neal Stephenson in his 1992 novel Snow Crash.
- He describe **PERSISTENT VIRTUAL WORLD** in which people can interact each other
- In 1970 a text-based virtual worlds Multi-User Dungeons. **MUDs** started.
- Multi-user Shared Hallucinations (or MUSHs) or Multi-User Experiences (MUXs) start which also participant to do different role like attorney or jury.
- In 1998, OnLive! Traveler launched with spatial **voice chat**.
- In 2003 **second life** virtual world game started



History

- Second life give idea of a parallel existence that would take place in virtual space.
- Second Life's annualized GDP exceeded **\$30 million**. By 2009, it exceeded half a billion dollars, with users cashing out **\$55 million** into real-world currency that year
- Facebook owner start metaverse project in 2021



The coming war

- In Snow Crash the Metaverse has made life in the real world **worse**.
- If anyone central company gains control of this, they will dominant this real world.
- Metaverse will also render more acute many of the hard problems of digital existence today, such as **data rights, data security, misinformation**.
- Metaverse can seem daunting and scary, but it also give a chance to connect peoples with each other ,to transform industries that have long resisted disruption.



Coming war

“It is here that fears of a Metaverse dystopia seem fair, rather than alarmist.”

What people say about Metaverse.

“Metaverse as a platform that turns the “entire world into an app canvas”¹ which could be augmented by cloud software and machine learning.”

Microsoft CEO Satya Nadella

Confusion and uncertainty

- It is kind of online platform where you can play a game watch movie and drive a car with friend.
- Whether **augmented reality** is part of the Metaverse, or separate from it, and whether the Metaverse can only be experienced through **immersive VR headsets**.
- Metaverse is decentralize version of internet . But why **operate by single company**
- But currently it is **centralize**.



Confusion and uncertainty

Virtual reality and **Augmented reality** are **combined in the metaverse** to make a sense of 'virtual presence.

It also combine with **Blockchain** and decentralize **web 3** to make it decentralize and to terminate the hold of single company.



Definition

Metaverse: “A massively scaled and interoperable network of real-time rendered 3D virtual worlds that can be experienced synchronously and persistently by an effectively unlimited number of users with an individual sense of presence, and with continuity of data, such as identity, history, entitlements, objects, communications, and payments.

Virtual world

- Virtual worlds refer to any **computer-generated simulated environment**. These environments can be 3D, 3D, 2.5D.
- **Digital twin** of real word or **fictionalized copy** of this world.
- A **digital twin** of the Hong Kong International Airport was created using the popular game engine Unity, the purpose of the twin was to **check the flow of passengers**.
- Similarly you can recreate whole city for real-time data feed of **traffic, weather, police, fire ,ambulance response**.



Virtual World

- Some virtual worlds are **fully persistent**, which means everything that happens inside them is permanent. In other cases, the experience is reset for each player.
- Most are centrally **controlled by the person or group** that developed and operates the world, which means they have unilateral control over its economy, policies, and users.

3D

- “3D” is a critical specification for the Metaverse.
- Zuckerberg says “3D is an inherently more intuitive interaction model for humans than 2D websites, apps, and video calls—especially in social use cases”.
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Lesson from history

- Humans seek out digital models that most closely represent the world as they experience it—richly.
- Online experiences become more “real,” we place more of our real lives online.
- Indicator for this change is typically new social apps, which, more often than not, are first embraced by younger generations.
- lessons seem to support the notion that the next great step for the internet is 3D.
- It is important to emphasize that while the Metaverse should be understood as a 3D experience, this does not mean that everything inside the Metaverse will be in 3D.

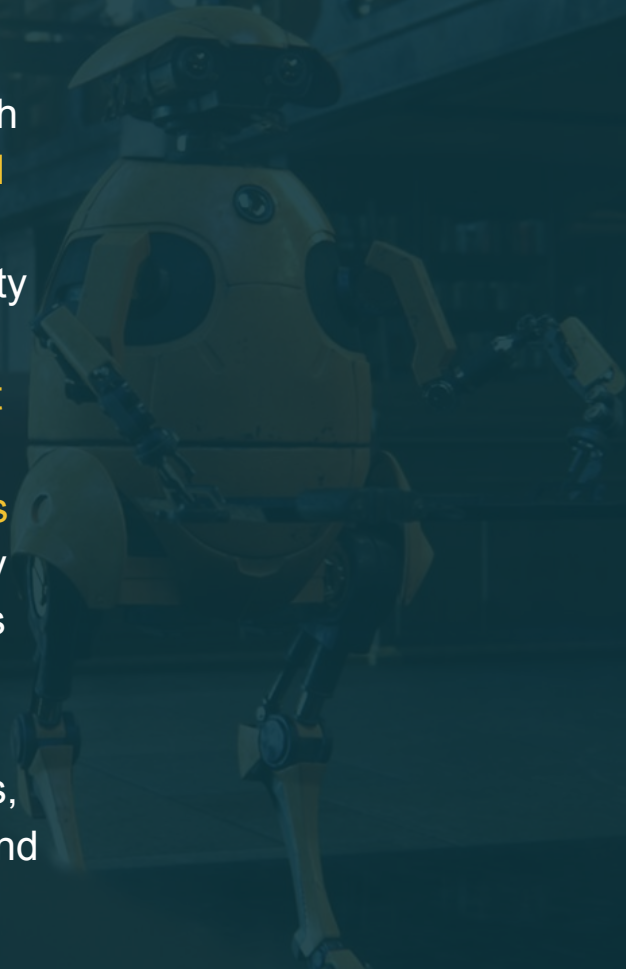
Real-Time Rendered

- Rendering is the process of **generating a 2D or 3D object** or environment using a computer program.
- Virtual worlds require real-time rendering. Without real-time rendering, the size and visuals of virtual worlds would be severely constrained.



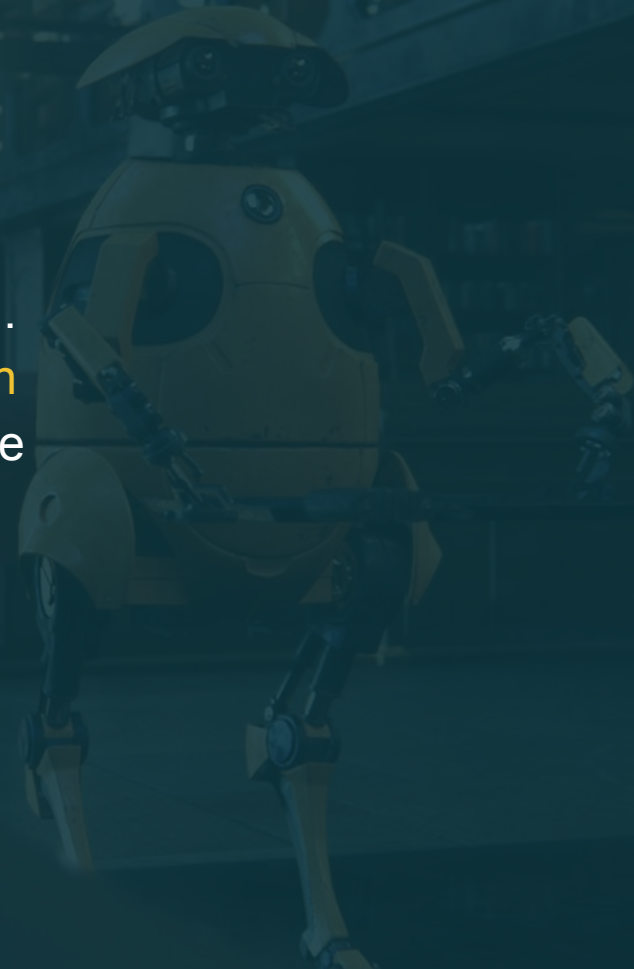
Interoperable Network

- User ability to take her virtual “content,” such as an avatar or a backpack, from **one virtual world to another**.
- Interoperable,” a term that refers to the ability for computer systems or software to **exchange and make use of information sent from one another**.
- It quite difficult because if **Call of Duty wants to import an avatar from Fortnite**, it will likely want to restyle the avatar to fit Call of Duty’s gritty realism.
- If a user purchases a virtual good in one virtual world, but then uses it in many others, where is their ownership record managed and how is this record updated?



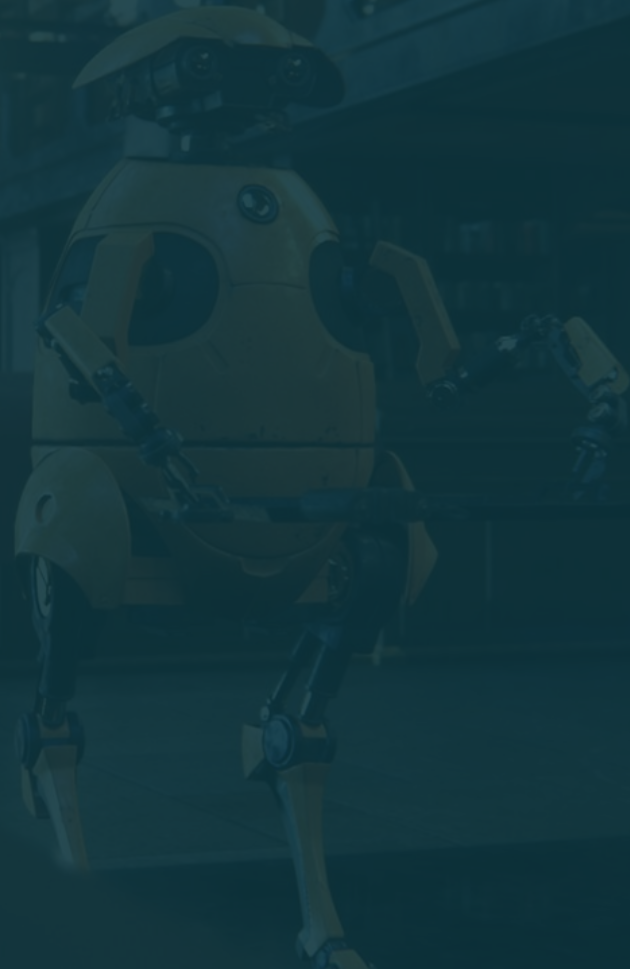
Massively scaled

- Metaverse is greek word and its meaning is **universe**.
- Metaverse must be massively scaled.
- In metaverse there must be **collection of virtual worlds** that operate by single authority.
- Every company operate their own virtual worlds.
- Facebook perfect example of it.



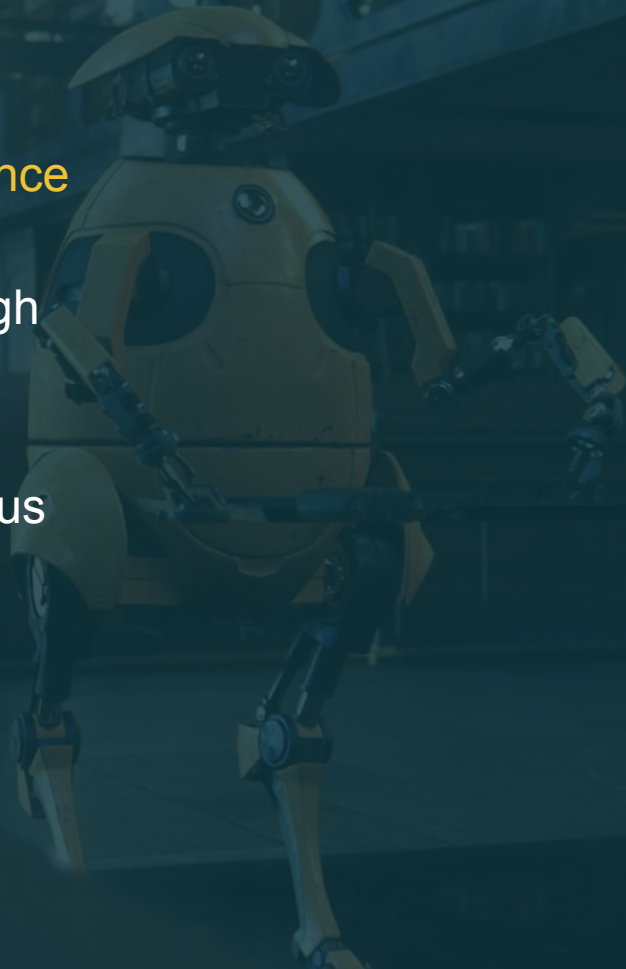
Persistence

- No current game of virtual reality is persistence it run for finite time.
- More information you persist. More resources will be need for it.
- Persistence is not be essential for growth of metaverse.



Synchronous

- We want metaverse to **share experience** with real world.
- Virtual world must have internet of high bandwidth capable of sharing data of large size.
- But internet not design for synchronous experience.



Complete Definition

Now recall our definition

“A **massively scaled** and **interoperable network** of **real-time rendered 3D virtual worlds** that can be experienced **synchronously** and **persistently** by an effectively **unlimited number of users** with an individual sense of presence, and with continuity of data, such as identity, history, entitlements, objects, communications, and payments”.

What we miss

- We are missing **decentralize blockchain** and **web3** concept.
- **Web3 is future version of internet.**
- Decentralize blockchain prevent single entity to completely hold metaverse.
- Both the Metaverse and Web3 are “successor states” to the internet.



Simple definition

“Metaverse is combination of **virtual reality** and **decentralize web3** in which user can interact, talk, plan, drive car, hear a judicial case, rise fund for charity and do concert in **3 dimension**”.

Source

THE METAVERSE And How It Will Revolutionize Everything By MATTHEW BALL.

Thank you