Identity In The Metaverse
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Agenda

1. What is the Metaverse?
2. "The Metaverse", should it be singular?
3. Identity as a primary construct
4. Interoperability in the Metaverse
5. Reference(s)
6. Q&A

Past & Present

1. Emmanuel Goldberg: Statistical Machine
2. Vannevar Bush: Memex (*As we may think*)
3. Jean Baudrillard: Hyperreality
4. Jean-Luc Godard: Alphaville
5. Neal Stephenson: Snow Crash(*Metaverse, Avatar*)
6. William Gibson: Neuromancer *The Matrix*
7. Games: Fortnite, Roblox, Minecraft, MFS …
8. Planet Labs Public Benefit Corporation

Definition

Realism. To cause psychological and emotional immersion.

Ubiquity. Accessible through all existing digital devices do the user's **virtual identities** or collective persona remain intact throughout transitions?

Interoperability. (a) digital assets used in the reconstruction or rendering of virtual environments remain interchangeable across specific implementations and (b) users can move seamlessly between locations without interruption in their immersive experience?

Scalability. Does the server architecture deliver sufficient power to enable massive numbers of users to occupy the Metaverse without compromising the efficiency of the system and the experience of the users?

Dionisio et. al

Definition (Continued)

The metaverse is a future persistent and interconnected virtual environment where social and economic elements mirror reality. Users can interact with it and each other simultaneously across devices and immersive technologies while engaging with digital assets and property- WEF

The metaverse is an immersive and constant virtual 3D world where people interact by means of an **avatar** to carry out a wide range of activities. Such activities can range from leisure and gaming to professional and commercial interactions, financial transactions or even health interventions such as surgery. EU

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 a continuity of data, such as **identity**, history, entitlements, objects, communications and payments. Matthew Ball

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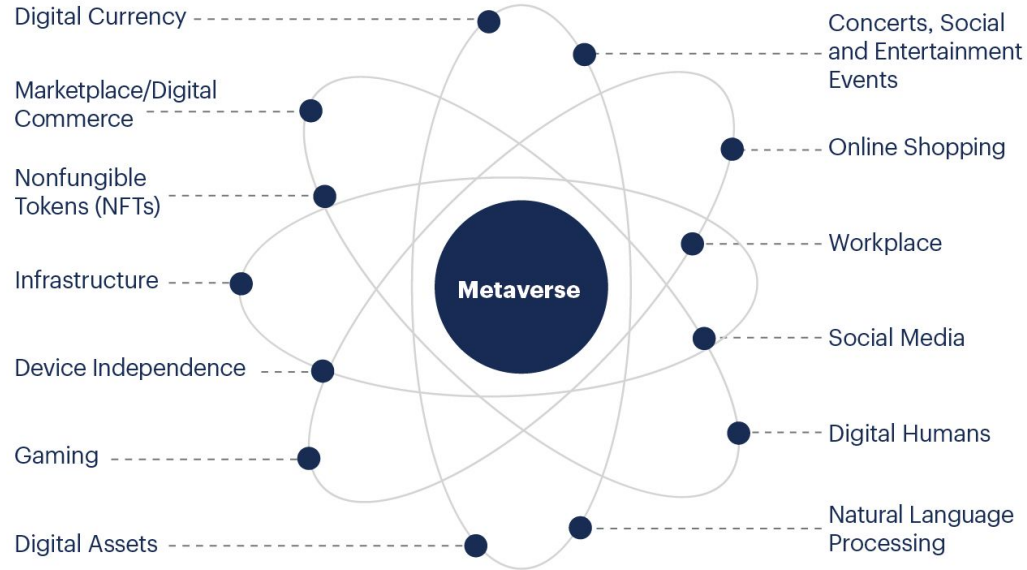nyc

It is Not… **Neti,Neti**

1. A "virtual world"
2. A "virtual space"
3. "Virtual reality"
4. A "digital and virtual economy"
5. A "game"
6. A "virtual theme park or Disneyland"
7. A "new app store"
8. A "new UGC platform"

Matthew Ball

Two Visions

- AR (Augmented Reality): Microsoft
- VR (Virtual Reality): Facebook
- Hybrid

Elements of a Metaverse

Meta-Future

- Education
- AEC, Real Estate
- Industry
- Medicine including psychiatry
- Lifestyle-Exercise, dating, weddings, sex-work
- Entertainment including sports, gambling and events
- Fashion
- Advertising
- Governance

The Metaverse vs A Metaverse

- Similar to "The Internet"
- As if true interoperability has arrived
- Encompasses all possible virtual worlds with seamless transitions
- Lack of a Metaverse protocol
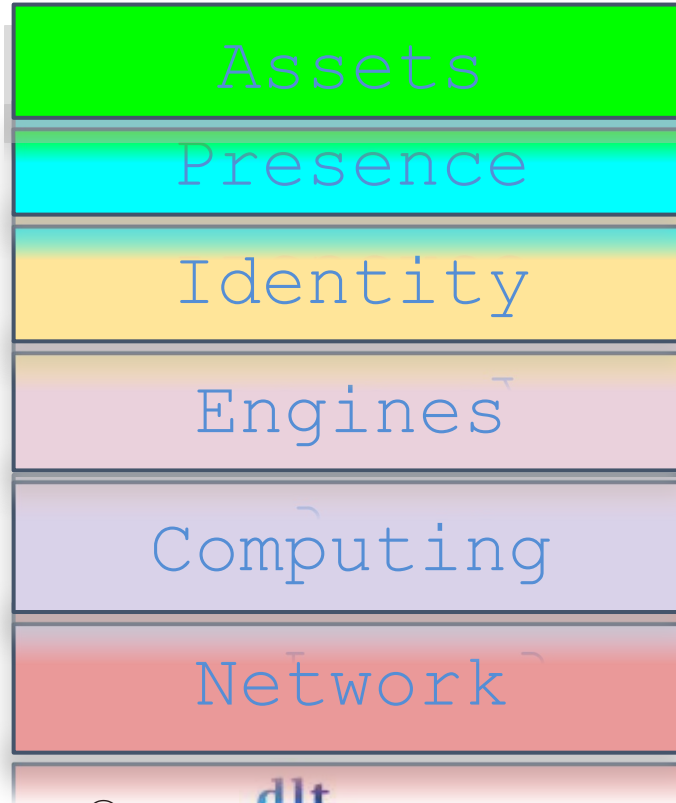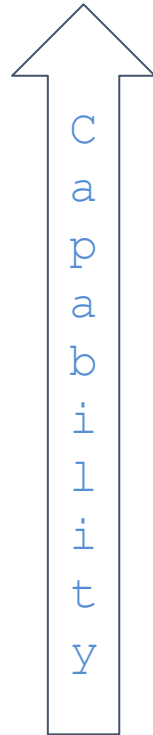- Standards(Universal Scene Description)

Identity In The Real World

- Identity is an edge Protocol
- Physical embodiment (face, body, voice, fingerprints, retina, gait, capillary patterns, odor)
- Genesis (Birth Certificate)
- Key documents (Passport, Driver's License)
- Identifiers (social security numbers, bank accounts, credit cards, etc.).
- Extended by: books, poetry, music, art or movies that we like or produce; the food that we cook or eat;memorabilia that we strongly associate with ourselves or our lives

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BUIDL The Metaverse

- Networks (Bandwidth and Latency)
- Devices (Primary, secondary, tertiary)
- Computing-Edge is better? Apps vs Browser
- Virtual world engines (Unreal, Unity, Helios, Steamworks, IVWP)
- Interoperability (shades of)
- Payment Rails (Blockchain) (*gatekeepers*)
- Identity (Blockchain)

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Buidling Layers

Capability ↑

| Assets |
| Presence |
| Identity |
| Engines |
| Computing |
| Network |

# Identity In The Metaverse

- Supported by platforms (KYC and payment)
    - Unreal
    - Unity
    - Helios
    - Steamworks
    - IVWP
- Attached to your assets
- Can be held by an Intermediary (Apple store?)

Risks For Identity

- Identity Theft
- Unwanted attention (predatory behavior)
- Blocked Identity (consent)
- Avatar Integrity
- Identity of operator/controller

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SSI & The Metaverse

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trust
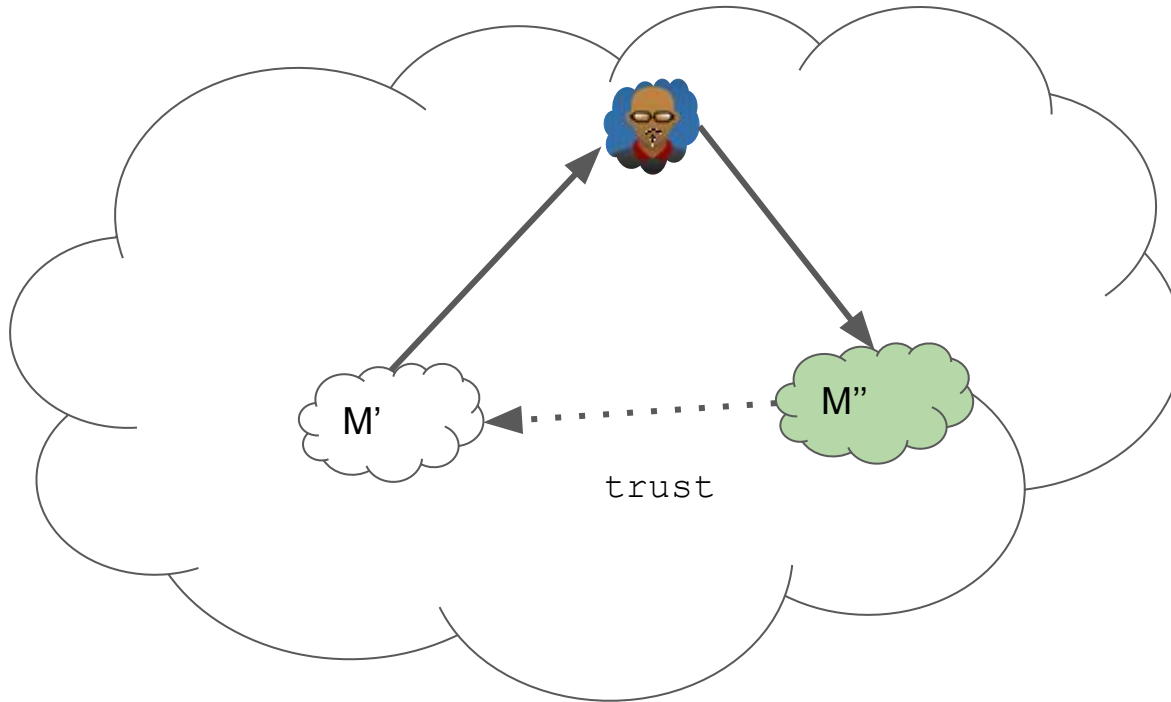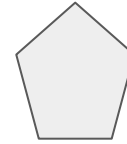
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Dionisio, J. D. N., Burns III, W. G., and Gilbert, R. 2013. 3D virtual worlds and the metaverse: Current status and future possibilities. ACM Comput. Surv. 45, 3, Article 34 (June 2013), 38 pages. DOI: http://dx.doi.org/10.1145/2480741.2480751

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Q&A

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