BUILDING THE OPEN METAVERSE

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Metaverse Must be Open for Providers to Meet Use Case Requirements in Many Dimensions

Use Cases

- Large Scale
- Small Scale
- Indoor
- Outdoor
- Wearable
- Handheld
- Embedded
Challenges Facing the Metaverse

Technical
- Security
- Connectivity
- Power usage
- Real World capture
  - Indoor/Outdoor
  - Storage
- Distributed architecture
- Interoperability

Societal
- Always recording/privacy
- Style/fashion

User Experience
- 3D presentation and control
- AI Agent (automation)

Governance
- Compliance
- Privacy
- Open data

Business
- Business model/revenue
- Competition/collaboration

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Key Elements on which I’m Currently Focusing

**ISG AR Framework**
- Requirements
- APIs on World Representation

**5G STAR (TR26.998)**
- Service Scenarios
- Requirements

**Spatial Web**
- Reference Model
- Modeling Language
- Schema for Metadata
- Shared/Private (and transitions)
- Indexable and discoverable registries
  - Hierarchical
  - Distributed
  - Decentralized
- Transaction Protocol

**GeoPose**
- Relative and universal
- Encoding format

**Points of Interest**
- Encoding format
For an Open and Interoperable Metaverse…

we need a Constellation of Standards
Geo Data Cubes

• A GeoDataCube may have multiple dimensions involving time and space, so simply requesting a coverage out of it may involve processing, essentially identifying the dimensions to be treated as the coverage domain and range for response purposes.

• A GeoDataCube could also involve data sources at multiple resolutions which are samples of the underlying spatiotemporal field. Any request for data at a specific resolution may then involve processes including interpolation, aggregation, etc.