

# Accessibility in the Metaverse

## Working Group Charter

### FINAL

Approved by Oversight Committee September 4, 2024

#### 1. Status and Change History

First Draft: May 4, 2024

First Oversight Review: August 7, 2024

Approved by Oversight: September 4, 2024

#### 2. Officers

Interim co-chairs:

- James Maki | [Inclusive Reality](#)
- Dylan Fox | [XR Access](#)
- Erin Leary | [Meta](#)
- Michael Cooper | Aihal Accessibility

The Working Group will follow the standard election process as in section 3, of the Cohort Process Policy with a minimum of 3 and maximum of 4 elected co-chairs, with election balloting after at least three Working Group meetings so that Members can establish good standing, but before the sixth meeting.

#### 3. Motivation and Goals (and NON-Goals)

The *Accessibility in the Metaverse* working group is dedicated to securing accessibility and inclusion for everyone in the metaverse. Our goal is to generate insights, identify risks, and recommend strategies and best practices to ensure that immersive experiences, environments, interfaces, and interactions are accessible to all, regardless of abilities or disabilities and access needs.

This group also explores the accessibility needs of metaverse content creators and developers in addition to end users and how accessible experiences benefit the organizations creating them. By promoting accessibility, we can achieve interoperability and full participation across metaverse experiences for everyone.

Non-goals include developing specific technical solutions or products.

#### 4. Project Deliverables and Requirements

##### Collect known guidance

Much is already known about digital accessibility, which largely applies to accessibility in XR, which adds new features to the digital content stack. As consumer XR products have become available, people have experienced new accessibility challenges. These are addressed in a variety of ways, from product design, design practices, and guidelines.

At this time, there is much important accessibility guidance available, but it is not comprehensive nor harmonized. The first step for this group will be to collate and harmonize available guidance, in order to understand the current state of XR accessibility.

##### Explore emerging XR accessibility needs

While much guidance exists, there is also much unknown within the industry about emerging accessibility needs. Creating appropriate guidance will require more comprehensive information about upcoming barriers and solutions. To fill that gap, the Working Group will perform or stimulate projects like:



- User surveys to gain an updated understanding of experience in the metaverse for users with disabilities;
- User research projects to identify how users work with specific hardware products or VR design;
- Scientific studies about the needs of specific users in specific contexts;
- Experiments and prototypes to narrow down specific problems or solutions;
- Extrapolative guidance based on extending current knowledge about accessibility into XR scenarios and taking into account the emerging opportunities presented by AI technologies.

Specific projects might be large or small in scope and the set of potential projects is large. Achievability and usefulness are key factors in selecting projects. The Working Group may carry out some projects itself, if available resources permit. Its main role, however, will be to identify topics where more information is needed. It will seek to work with collaborator organizations with appropriate expertise to develop much of this knowledge.

### Document comprehensive use cases

Creating use cases is an essential part of communicating accessibility needs, and helps reviewers to understand if their particular situation is addressed by the materials. Because of the breadth of the metaverse, the set of potential use cases is large. They will therefore need to be kept brief, but should seek to cover the issues identified in the previous phases.

There are some categories of use cases that are important to include:

- User interaction with specific hardware, covering all known hardware types;
- User experience of common XR gestures like moving, grabbing, panning, etc.;
- User experience with larger-scale XR objects, actions and experiences, such as exploring a large room, finding and purchasing from a virtual store, etc.

### Gap analysis

The use cases will help to perform a gap analysis between accessibility requirements covered in existing resources, vs the ones shown in the use cases. This work will inform the following stage.

### Develop a strategic plan for accessibility in the metaverse

The above projects will consume the two-year operating period for this group, and should reveal the best available state of knowledge about accessibility in XR, both now and in the foreseeable future. A group chartered for further work would take on priorities identified so far. To support this, this group will produce a strategic plan that lays out clear next steps to advance accessibility in the metaverse. This plan might encompass several parts of the ecosystem, such as:

- Features needed in hardware, especially emerging types of hardware, to support accessibility to the widest possible user base;
- Recommendations for interoperability features or APIs;
- Content developer technical and design guidance;
- Recommendations for normative UX guidelines and specifications;
- Recommendations for the use of AI in driving metaverse accessibility.

This list may evolve but emphasizes that the strategic plan may have a broad scope.

### Collaborate on solution deployment

It is the ultimate aim of this Working Group to help ensure the metaverse becomes and remains fully accessible through ongoing evolution. The group will not be able to provide comprehensive formal guidance within its first two years, but it will gather information that is useful to the efforts ongoing in the industry today. While the group's guidance may be partial, it will work with partners that are refining and deploying accessibility solutions, to make them as best we know how to at this time.

## 5. Milestone Plan

The Working Group expects to publish documents corresponding to the following milestones; specific titles and organization may change. These publications will be publicly available with channels available for input. The Working Group will explicitly seek broad review of at least one draft version of each document, at least 6 months before schedule completion.

Milestone	Description	Start	Duration	Target Completion Date
1	Known guidance collection	+0 months	9 months	+9 months
2	Emerging XR accessibility needs	+3 months	18 months	+21 months
3	Use cases	+9 months	6 months	+15 months
4	Gap analysis	+12 months	6 months	+18 months
5	Strategic plan for accessibility in the metaverse	+18 months	6 months	+24 months

## 6. Coordination

We will be reaching out to:

- Metaverse platform developers: Meta, Microsoft, Apple, Google, Unity 3D, Epic Games, Valve, Three.js, Babylon.js, Rec Room, Spatial, Engage, HTC Vive, etc.
- Hardware developers: Ultraleap, HaptX, Glydr, etc.
- XR content creators: Mynd Immersive, Owlchemy Labs, US Veterans Affairs, The Grieving Project, etc.
- MSF groups: Ethical Principles for the Metaverse, XR Device Interoperability, Outreach, Interoperable, Digital Fashion Wearables for Avatars, Characters/Avatars, Privacy Cybersecurity & Identify, Real / Virtual World Integration, Standards Register, etc.
- Standards development and industry organizations: W3C Accessibility Guidelines Working Group, W3C Immersive Web Working Group, W3C Immersive Captions Community Group, W3C Accessible Platform Architectures Working Group, IEEE, ISO, Khronos Group, Entertainment Software Association, The Global Association for the Attractions Industry (IAAPA), ARVR Association, Fable, etc.
- Advocacy groups and communities of people with disabilities: The ARC, American Association of People with Disabilities, National Association of the Deaf, American Foundation for the Blind, Disability Rights Advocates, E&B Deaf Law Center, 3Play Media, United Spinal, Lighthouse for the Blind, Be My Eyes, etc.
- Government organizations: U.S. Access Board, European Commission, US FCC, etc.
- Academic and research organizations: XR Access (Cornell), Rochester Institute of Technology, Gallaudet University, University of Dundee, Critical Augmented/Virtual Reality Network, University of Manitoba, etc.

## 7. Communication Plan

The Working Group will keep other groups and the public informed about its progress via quarterly updates. These would be very short articles summarizing the group's work for the past quarter, and available from the news widget of the Working Group's dashboard. They will also be posted publicly to an external website and shared through member organization's social media as appropriate.

For internal communication, the Working Group will use the Forum Accessibility mailing list and the Forum MSF Discord.

## 8. Risk Factors

Current risk factors that might affect the ability of the Working Group to succeed include:

- Insufficient representation from participant organization stakeholders
- Insufficient representation from participants with diverse experiences and backgrounds
- Lack of consensus on accessibility definitions and best practices
- Lack of clarity for long-term technology capabilities
- Current 2D web accessibility models may not translate well into 3D experiences
- Limited resources, funding, or support for the working group
- Lack of adoption by platforms, standards orgs, and/or developers

To address these risks, the Working Group will:

- Reach out to various organizations via MSF and other organizational channels
- Incorporate feedback from advocacy organizations and communities like that in XR Access
- Post drafts for public review
- Utilize MSF standards register & glossary
- Analyze 2D accessibility models and determine which remain relevant to 3D
- Align Working Group activities with organizational goals to draw participation resources
- Apply for grants
- Work closely with standards orgs on development & adoption
- Coordinate with advocacy groups pushing for accessibility

## 9. Working Group Renewal

The Accessibility in the Metaverse Working Group will seek renewal approval two years from the date of approval of the charter.

## 10. Project Funding and Resources

Exact process for funding is to be determined by the Forum Board. For any project listed here, a cost estimate will be provided, if needed, and a specific proposal will be submitted to the Board.

The working group will also explore grants and potential partnerships to provide funding.

## 11. References

- XR User Requirements (W3C) <https://www.w3.org/TR/xaur/>
- XR Accessibility GitHub Repository (XRA + XR Access) <https://xraccess.org/github>