Accessibility in virtual reality and virtual worlds

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ImAc Immersive Accessibility

MediaVerse

traction

GREEN SCENT
SMART CITIZEN EDUCATION FOR A GREEN FUTURE

Immerse

Language learning for foreign students via 3D objects

InclusiVRity

Empowering Secondary teachers with VR Technologies to foster a more inclusive environment for Neurodiverse Students

MOSAIC

ALFIE

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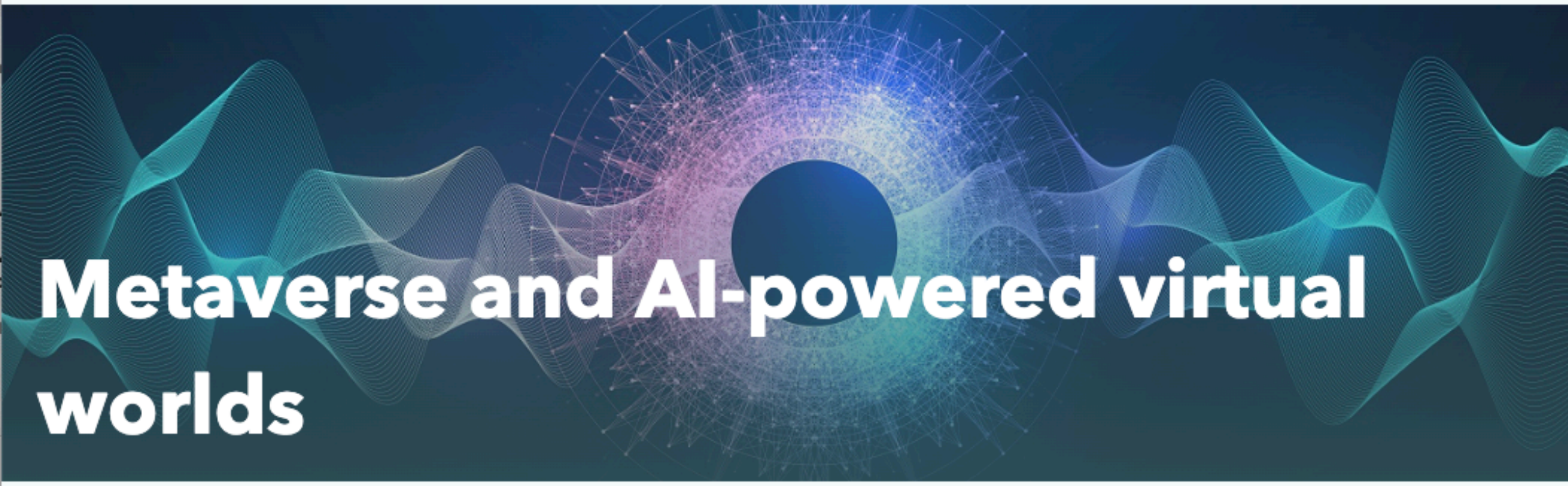
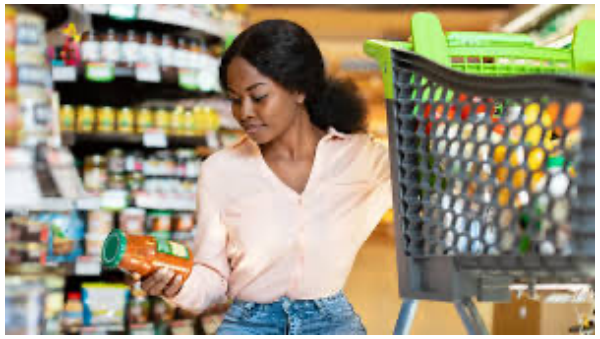
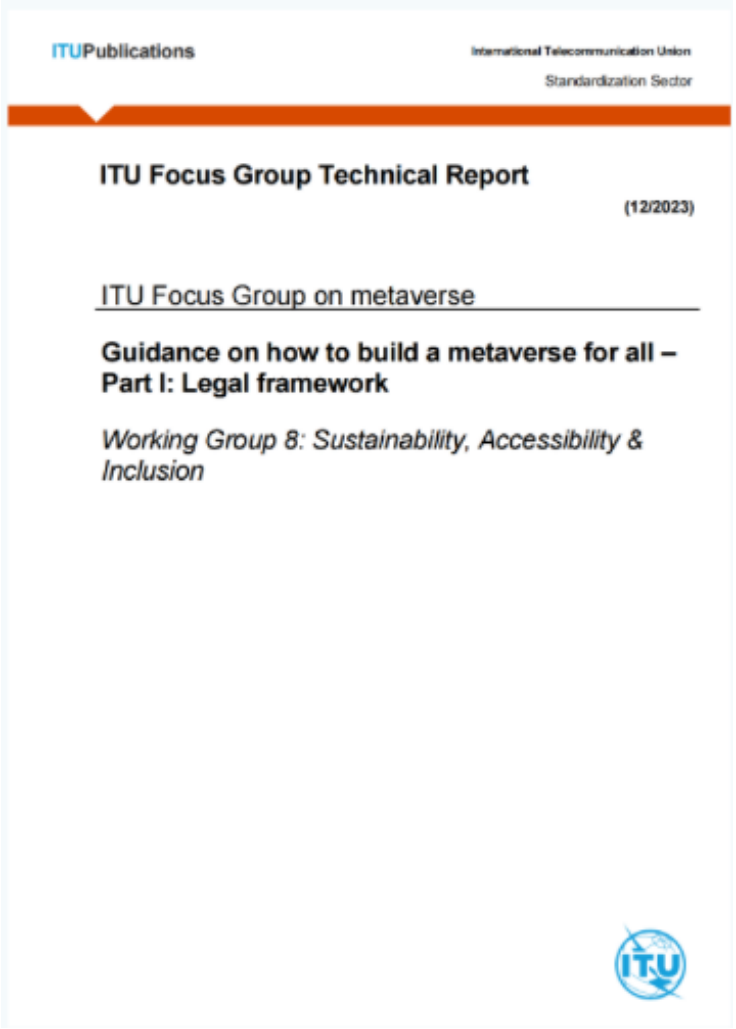


Metaverse and AI-powered virtual worlds

Step into the future of AI-powered virtual worlds, where the citiverse seamlessly integrates digital and physical experiences. Discover how ITU is advancing innovation, inclusion, and sustainability in the evolving landscape of interconnected intelligent environments, including the metaverse.

Profiling end users





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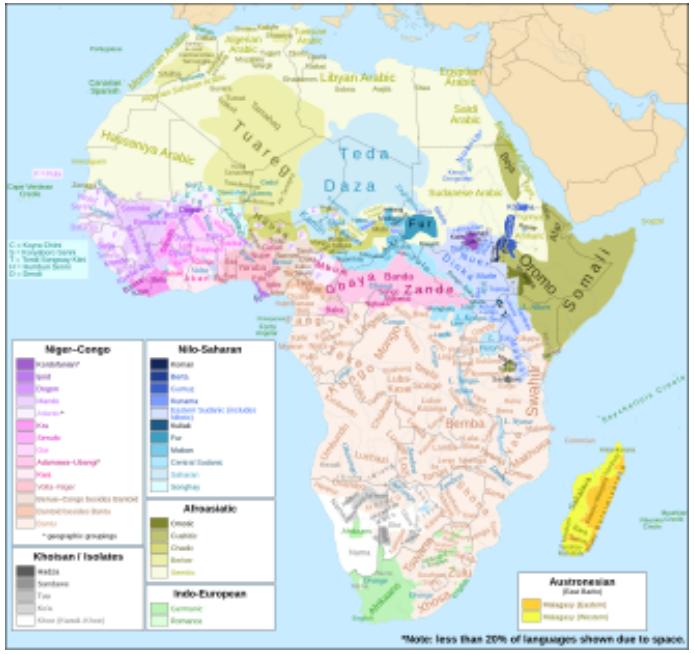
Languages and language modalities



ITUPublications

International Telecommunication Union
Standardization Sector

ITU Focus Group Technical Specification
(03/2024)

ITU Focus Group on metaverse
(FG-MV)

FGMV-26

Requirements for communication between human-avatar languages in the metaverse

Working Group 8: Sustainability, Accessibility & Inclusion

Profiling interaction

Oral —> written

Written —> Oral

Tactile/haptic —> Written/oral

Sign —> Written/oral

ITUPublications

International Telecommunication Union

Standardization Sector

ITU-T Focus Group Technical Specification

(10/2023)

ITU-T Focus Group on metaverse

Requirements of accessible products and services in the metaverse: Part I – System design perspective

Working Group 8: Sustainability, Accessibility & Inclusion

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What have we learnt?

Reading

Sound

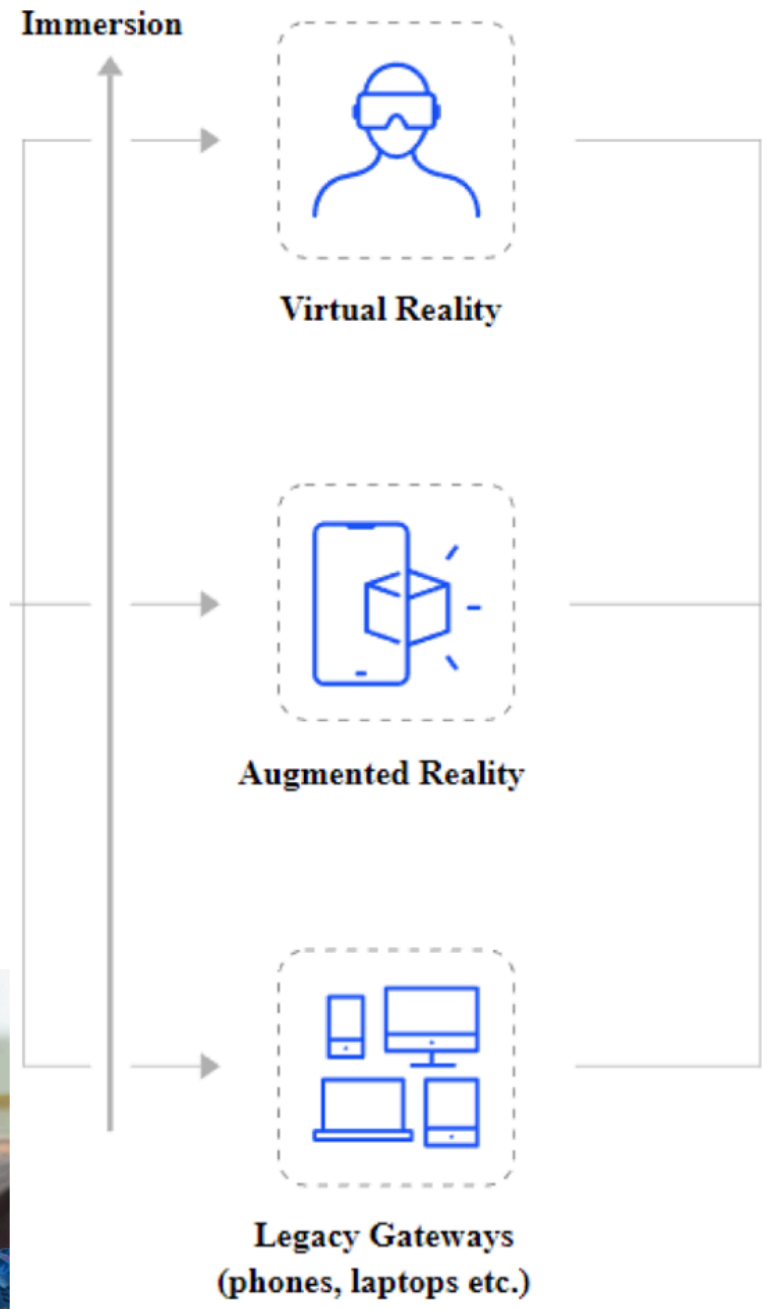
Guiding mechanism

Subtitling positioning

Audio description modalities

Sign Language

Digital gap



Item no.	Equation
1.	$dmax := \delta_i \cdot \max_{j=1,2,\ldots,J} \left\{ d_{j,p,r} \right\}$
2.	$avgd := \frac{\sum_{j=1}^{J} d_{j,p,r}}{J}$
3.	$sd_{p,r} := \frac{1}{\sqrt{J}} \cdot \sum_{j=1}^{J} \sqrt{\left(avgd - d_{j,p,r} \right)^2}$
4.	$w_{i,p,r}^{\{s,a\}} := \left(1 - \frac{sd_{p,r} \cdot avgd}{\max_{\substack{p2:=1,2,\ldots,P \\ r2:=1,2,\ldots,R}} (sd_{p2,r2} \cdot avgd)} \right)$
5.	$\overline{xA}_{i,p,r,m}^{\{s,a\}} := \frac{(m-1) \cdot dmax}{nRules-1}$
6.	$\overline{\sigma A}_{i,p,r}^{\{s,a\}} := \frac{\overline{xA}_{i,p,r,2}^{\{s,a\}} - \overline{xA}_{i,p,r,1}^{\{s,a\}}}{2 \cdot \left(\ldots \right)}$

FGMV
WG 8

1. **Guidelines to assess inclusion and accessibility in metaverse standard development**
2. **Requirements of accessible products and services in the metaverse: Part I – System design perspective**
3. **Requirements of accessible products and services in the metaverse: Part 2 – User perspective**
4. **Design criteria and technical requirements for sustainable metaverse ecosystems**
5. **Accessibility requirements for metaverse services supporting IoT**
6. **Accessibility in a sustainable metaverse**
7. **Guidelines and requirements on interpreting in the metaverse**
8. **Guidance on how to build a metaverse for all – Part I: Legal Framework**
9. Guidance on how to build a metaverse for all – Part 2: Results from questionnaire
10. Requirements for communication between human-avatar languages in the metaverse

Thank you

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