

ISO/IEC 23090-14:2025-11 (E)

Information technology - Coded representation of immersive media - Part 14: Scene description

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms, definitions, abbreviated terms, and conventions	1
3.1 Terms and definitions	1
3.2 Abbreviated terms	3
3.3 Conventions	4
3.3.1 General	4
3.3.2 Arithmetic operators	4
3.3.3 Logical operators	4
3.3.4 Relational operators	5
3.3.5 Bit-wise operators	5
3.3.6 Assignment operators	5
3.3.7 Other operators	6
3.3.8 Order of operation precedence	6
3.3.9 Text description of logical operations	6
4 Overview and architecture	8
4.1 Overview	8
4.2 Architecture	8
4.3 Timing model	11
5 Scene description extensions	12
5.1 General	12
5.1.1 Overview of extensions	12
5.1.2 Formatting and typing	13
5.2 Generic extensions	14
5.2.1 MPEG_media extension	14
5.2.2 MPEG_accessor_timed extension	17
5.2.3 MPEG_buffer_circular extension	20
5.2.4 MPEG_scene_dynamic extensions	22
5.3 Visual Extensions	24
5.3.1 MPEG_texture_video extensions	24
5.3.2 MPEG_mesh_linking extensions	25
5.4 Audio extensions	27
5.4.1 MPEG_audio_spatial extensions	27
5.5 Metadata extensions	31
5.5.1 MPEG_viewport_recommended extensions	31
5.5.2 MPEG_animation_timing extensions	32
6 Media access function and buffer API	33
6.1 General	33
6.2 Media access function API	34
6.3 Buffer API	38
7 Carriage formats	40
7.1 General	40
7.2 Carriage format for glTF JSON and JSON patch	40
7.2.1 General	40
7.2.2 glTF patch config box	41

7.3	Carriage format for glTF object and glTF source object as non-timed item	42
7.3.1	General	42
7.3.2	glTF Items	42
7.3.3	glTF source items	42
7.4	Carriage format for mesh correspondence values	43
7.4.1	General	43
7.4.2	Vertices correspondence sample entry	43
7.4.3	Vertices correspondence sample format	44
7.5	Carriage format for pose and weight	44
7.5.1	General	44
7.5.2	Pose transformation sample entry	45
7.5.3	Pose transformation sample format	45
7.6	Carriage format for animation timing	46
7.6.1	General	46
7.6.2	Animation sample entry	46
7.6.3	Animation sample format	47
7.7	Sample redundancies	48
7.8	Brands	48
8	Advanced Features	48
8.1	AR Anchoring	48
8.1.1	MPEG_anchor extension	48
8.1.2	Semantics	48
8.1.3	Processing model	54
8.2	Interactivity	55
8.2.1	General	55
8.2.2	Semantics	55
8.2.3	Processing model	67
8.3	Avatar	69
8.3.1	General	69
8.3.2	Semantics	70
8.3.3	MPEG reference avatar	70
8.3.4	Avatar path definition	70
8.3.5	Processing model	74
8.4	Lighting	74
8.4.1	General	74
8.4.2	Semantics	74
8.4.3	Processing model	77
	Annex A (informative) JSON schema reference	79
	Annex B (normative) Attribute registry	83
	Annex C (normative) Support for real-time media	84
	Annex D (normative) Audio attenuation functions	85
	Annex E (informative) Linking a dependent mesh and its associated shadow mesh	87
	Annex F (informative) glTF extension usage examples	89
	Annex G (normative) Support for MPEG-I Media	91
	Annex H (Informative) Reference avatar	107
	Bibliography	129