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Information technology — Coding of audio-visual objects —

Part 21:
MPEG-J Graphics Framework eXtensions (GFX)

Technologies de l'information — Codage des objets audiovisuels —

Partie 21: Extensions du cadre graphique (GFX) pour MPEG-J

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Foreword

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ISO/IEC 14496-21 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

ISO/IEC 14496 consists of the following parts, under the general title *Information technology — Coding of audio-visual objects*:

—   *Part 1: Systems*

—   *Part 2: Visual*

—   *Part 3: Audio*

—   *Part 4: Conformance testing*

—   *Part 5: Reference software*

—   *Part 6: Delivery Multimedia Integration Framework (DMIF)*

—   *Part 7: Optimized reference software for coding of audio-visual objects* [Technical Report]

—   *Part 8: Carriage of ISO/IEC 14496 contents over IP networks*

—   *Part 9: Reference hardware description* [Technical Report]

—   *Part 10: Advanced Video Coding*

—   *Part 11: Scene description and application engine*

—   *Part 12: ISO base media file format*

—   *Part 13: Intellectual Property Management and Protection (IPMP) extensions*

—   *Part 14: MP4 file format*

— *Part 15: Advanced Video Coding (AVC) file format*

— *Part 16: Animation Framework eXtension (AFX)*

— *Part 17: Streaming text format*

— *Part 18: Font compression and streaming*

— *Part 19: Synthesized texture stream*

— *Part 20: Lightweight Application Scene Representation (LASeR) and Simple Aggregation Format (SAF)*

— *Part 21: MPEG-J Graphics Framework eXtension (GFX)*

— *Part 22: Open Font Format*

Information technology — Coding of audio-visual objects —

Part 21:
MPEG-J Graphics Framework eXtensions (GFX)

1   Scope

This International Standard specifies MPEG-J Graphics Framework eXtension (GFX). This extension enables Java-based applications to control the rendering and composition of synthetic and natural media in a programmatic manner.

2   Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 14496-1:2004, *Information technology — Coding of audio-visual objects — Part 1: Systems*

ISO/IEC 14496-11:2005, *Information technology — Coding of audio-visual objects — Part 11: Scene description and application engine*

JSR-135, *Mobile Media API (MMAPI)* — http://jcp.org/aboutJava/communityprocess/final/jsr135/index.html

3   Symbols and abbreviated terms

List of symbols and abbreviated terms.

API	Application Programming Interface
BIFS	BInary Format for Scenes
ES	Elementary Stream
IOD	Initial Object Descriptor
JCP	Java Community Process
JSR	Java Specification Request
M3G	Mobile 3D Graphics API for Java
MPEG-J	MPEG-4 Java Application Engine
OD	Object Descriptor

4   Notations

The UML (Unified Modelling Language) notation [18] is used extensively in this specification for class, sequence, collaboration, state and component diagrams.