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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

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A list of all parts in the ISO/IEC 19566 series can be found on the ISO and IEC websites.

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Introduction

This document describes the JPEG Linked Media Format (JLINK) international standard, which enables the embodiment of multiple image types and media elements into a single media content. This document elaborates on the inherent properties and functionalities of the file format, such as file structure and navigation.

This document defines the image container for structuring multiple types of media into a single file, including definition of metadata specification for multiple types of media. It supports legacy technology in the domain, such as image coding technology as well as metadata standards that signal access policies and others.

In this document, the following verbal forms are used:

— “shall” indicates a requirement;

— “should” indicates a recommendation;

— “may” indicates a permission;

— “can” indicates a possibility or a capability.

Information marked as “NOTE” is intended to assist the understanding or use of the document. “Notes to entry” used in Clause 3 provide additional information that supplements the terminological data and can contain provisions relating to the use of a term.

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Information technologies — JPEG systems —

Part 7:
JPEG linked media format (JLINK)

1 Scope

This document specifies an image file format capable of linking multiple media elements, such as image and text in any box-based JPEG file format.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 19566-5, *Information technologies — JPEG systems — Part 5: JPEG universal metadata box format (JUMBF)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
bitstream
sequence of bits comprising an image file

3.2
codestream
collection of one or more bit streams and the main header, tile-part headers, and the EOC required for their decoding and expansion into image data

Note 1 to entry: This is the image data in a compressed form with all of the signalling needed to decode.

[SOURCE: ISO/IEC 15444-1:2019, 3.19]

3.3
link
relational description of a scene to another scene composed of linkage region, sprite, and visual effect for scene change

3.4
linkage region
specific region in a source scene to which a link is active

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3.5
metadata
data about data

[SOURCE: ISO 19115:2003]

3.6
point of origin
reference location (e.g. 0,0) used to describe offset positions

3.7
scene
basic unit of a JLINK composed of a 2D image and text

3.8
sprite
visual element on the user display which indicates user interaction events

4 Abbreviations

FOV	field of view
JLINK	JPEG linked media format
JPEG	joint photographic experts group
JUMBF	JPEG universal metadata box format
URI	uniform resource identifier
XML	extensible markup language
XMP	extensible metadata platform
RDF	resource description framework
UMF	universal metadata framework

5 General

5.1 JLINK concept

JLINK structures sets of 2D images and text into a theme-related content. The basic elements of JLINK are a ‘scene’ and a ‘link’. A scene contains 2D image (or portions thereof) and other elements such as an image title, an image note, and image viewports.

A link describes the way(s) scenes are associated, and it contains a description of interactive region of interest, overlaid sprites and their locations on the image, and visual effect between scene renderings. Combining scenes and links creates curated multimedia experience of the images.

Figure 1 shows a JLINK where scene0 has links to scene1 and scene3 and scene1 to scene2 (Figure 1). scene0 and scene1 have specific linkage regions to scene1, scene3, and scene2, respectively, with the location that originated from the top left (Figure 4).

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