Information technology — Computer graphics and image processing —
Extensible 3D (X3D) language bindings —
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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form a 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. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

International Standard ISO/IEC 19777-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee 24, *Computer graphics, image processing and environmental data representation*, in collaboration with Web3D Consortium, Inc.

ISO/IEC 19777 consists of the following parts, under the general title *Information technology — Computer graphics and image processing — Extensible 3D (X3D) language bindings*:

   Part 1: ECMAScript
   Part 2: Java

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Introduction

Extensible 3D (X3D) is a system for describing interactive 3D objects and worlds as defined in ISO/IEC 19775. An inherent part of X3D is the ability to modify the behaviour of these objects through scripting and external programming. This part of ISO/IEC 19777 specifies the binding of the application programmer interface defined in ISO/IEC 19775-2 to the Java programming language.

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1 Scope

The Extensible 3D (X3D) specification, ISO/IEC 19775, specifies a language-independent application programmer interface (API) to a set of services and functions. For integration into a programming language, the X3D abstract interfaces are embedded in a language-dependent layer obeying the particular conventions of that language. This part of ISO/IEC 19777 specifies such a language-dependent layer for the Java programming language.

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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.

The Bibliography contains a list of informative documents and technology.

Identifier	Reference
I639	ISO 639:1988, *Code for the representation of names of languages*
I3166	ISO 3166:1997 (all parts), *Codes for the representation of names of countries and their subdivisions*
I8632	ISO/IEC 8632:1992 (all parts), *Information technology — Computer graphics — Metafile for the storage and transfer of picture description information*
I9899	ISO/IEC 9899:1990, *Programming languages — C*
I10641	ISO/IEC 10641:1993, *Information technology — Computer graphics and image processing — Conformance testing of implementations of graphics standards*
I10646-1	ISO/IEC 10646-1:2000, *Information technology — Universal Multiple-Octet Coded Character Set (UCS) - Part 1: Architecture and Basic Multilingual Plane*
I11172-1	ISO/IEC 11172-1:1993, *Information technology — Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s — Part 1: Systems*
I14772-1	ISO/IEC 14772-1:1997, *Information technology — Computer graphics and image processing — The Virtual reality modeling language (VRML) — Part 1: Functional specification and UTF-8 encoding*
I18026	ISO/IEC 18026:2006[1), *Information technology — Spatial Reference Model (SRM)*
I19775-1	ISO/IEC 19775-1:2004, *Information technology — Computer graphics and image processing — Extensible 3D (X3D) — Part 1: Architecture and base components*
I19775-2	ISO/IEC 19775-2:2004, *Information technology — Computer graphics and image processing — Extensible 3D (X3D) — Part 2: Scene Access Interface (SAI)*

"The Java Language Specification" by James Gosling, Bill Joy and Guy Steele, Addison Wesley, Reading Massachusetts, 1996, ISBN 0-201-63451-1.
http://java.sun.com/docs/books/jls/index.html

JAVA

"The Java Virtual Machine Specification" by Tim Lindhold and Frank Yellin, Addison Wesley, Reading Massachusetts, 1996, ISBN 0-201-63452-X.
http://java.sun.com/docs/books/vmspec/index.html

RFC1738 IETF RFC 1738, *Uniform Resource Locator, Internet standards track protocol*
http://www.ietf.org/rfc/rfc1738.txt?number=1738

RFC1766 IETF RFC 1766, *Tags for the Identification of Languages, Internet standards track protocol*
http://www.ietf.org/rfc/rfc1766.txt?number=1766

RFC1808 IETF RFC 1808, *Relative Uniform Resource Locator, Internet standards track protocol*
http://www.ietf.org/rfc/rfc1808.txt?number=1808

RFC2077 IETF RFC 2077, *The Model Primary Content Type for Multipurpose Internet Mail Extensions, IETF Internet standards track protocol*
http://www.ietf.org/rfc/rfc2077.txt?number=2077

RFC2141 IETF RFC 2141, *Universal Resource Name, Internet standards track protocol*
http://www.ietf.org/rfc/rfc2141.txt?number=2141

RFC2397 IETF RFC 2397, *The "data" URL scheme, Internet standards track protocol*
http://www.ietf.org/rfc/rfc2397.txt?number=2397

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[1] To be published.