13066-2

First edition 2012-10-15

Information technology — Interoperability with Assistive Technology (AT) —

Part 2:

Windows accessibility application programming interface (API)

Technologies de l'information — Interopérabilité avec les technologies d'assistance —

Partie 2: Interface de programmation d'applications (API) d'accessibilité Windows



ISO/IEC TR 13066-2:2012(E)

This is a preview of "ISO/IEC TR 13066-2:2...". Click here to purchase the full version from the ANSI store.



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2012

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents Page Forewordiv Introduction......v Scope......1 1 2 General Description and Architecture of the Microsoft Windows Automation API7 3.1 General Description7 32 Architecture10 Using the API12 4.1 Using the Microsoft Active Accessibility API......12 Using the UI Automation API15 42 Using the IAccessibleEx Interface......20 4.3 5 Exposing User Interface Element Information24 5.1 5.2 Exposing UI Elements with UI Automation......28 Exposing User Interface Element Actions......33 6 6.1 Exposing User Interface Element Actions in MSAA......33 Exposing User Interface Element Actions in UI Automation.......33 6.2 Keyboard Focus36 MSAA Keyboard Focus and Selection36 7.1 UI Automation Keyboard Focus and Selection38 7.2 8 8.1 UI Automation Events47 82 9 Programmatic Modifications of States, Properties, Values and Text49 9.1 UI Automation Design Considerations......49 10 Design Considerations52 UI Automation Design Considerations......52 10.1 10.2 IAccessibleEx Design Considerations60 Further Information66 11 11.1 Microsoft Active Accessibility and Extensibility......66 UI Automation Extensibility Features......66 11.2 Annex B (informative) UI Automation to Microsoft Active Accessibility Bridge78 Annex C (informative) UI Automation for W3C Accessible Rich Internet Applications (ARIA) Specification83 Annex D (informative) Other Useful APIs for Development and Support of Assistive Technologies......87

Bibliography......94

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. 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.

In exceptional circumstances, when the joint technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide to publish a Technical Report. A Technical Report is entirely informative in nature and shall be subject to review every five years in the same manner as an International Standard.

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.

ISO/IEC TR 13066-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 35, *User interfaces*.

ISO/IEC TR 13066 consists of the following parts, under the general title *Information technology* — *Interoperability with Assistive Technology (AT)*:

- Part 1: Requirements and recommendations for interoperability
- Part 2: Windows accessibility application programming interface (API) [Technical Report]
- Part 3: IAccessible2 accessibility application programming interface (API) [Technical Report]
- Part 4: Linux/UNIX graphical environments accessibility API [Technical Report]¹
- Part 6: Java accessibility API [Technical Report]

-

¹ To be published.

Introduction

Individuals with a wide range of functional disabilities, impairments, and difficulties require specific technology to enable computers and software to be accessible to them. This part of ISO/IEC TR 13066 provides information about the Microsoft® Windows® Automation Frameworks, including Microsoft Active Accessibility, User Interface (UI) Automation, and the common interfaces of these accessibility frameworks including the IAccessibleEx interface specification.

The intent of this part of ISO/IEC TR 13066 is to provide information and application programming interfaces (APIs) needed to use these frameworks. A primary goal of this part of ISO/IEC TR 13066 is to ensure that accessible software applications can be written in such a way that they are fully compatible with the Microsoft Accessibility APIs available on the Microsoft Windows operating system.