TECHNICAL
REPORT

ISO/IEC TR
10182

Information technology — Programming languages, their environments and system software interfaces — Guidelines for language bindings

Technologies de l'information — Langages de programmation, leurs environnements et interfaces logicielles des systèmes — Techniques d'interface pour les normes de langages de programmation

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: Foreword — Supplementary information.

The committee responsible for this Technical Report is ISO/IEC JTC 1, *Information technology,* Sub-Committee SC 22, *Programming languages, their environments and system software interfaces.*

This first edition of ISO/IEC TR 10182:2016 cancels and replaces the first edition of ISO/IEC TR 10182:1993, of which it constitutes a minor revision with the following changes:

— the references section has been deleted;

— minor editorial errors have been corrected.

Introduction

This Technical Report is a compilation of the experience and knowledge gained by the members of ISO/IEC JTC1/SC22/WG11 (Techniques for Bindings) from the generation of programmers' interfaces to FUNCTIONAL INTERFACE STANDARDS. Although current experience was derived from the fields of computer graphics and database management, the problems discussed are thought to be generally applicable for mappings of other functional interface standards to programming languages. This Technical Report is intended

a)   to identify the problems and conflicts which shall be resolved;

b)   to suggest guidelines for future use;

c)   to provide scope and direction to required additional work, such as common procedural calling mechanisms and data types; and

d)   as a historical record of past experiences and decisions.

This Technical Report is incomplete; the authors have concentrated on those areas where experience and expertise was readily available. The ideas and issues brought forward here emerged from more than 10 years of work, and are represented in International Standards.

Clause 3 of this Technical Report contains the results of a survey of current methods used for language binding development. Characteristics of each method are given, followed by reasons for the selection of the method.

Application of the methods has suggested some guidelines that are presented in Clause 4. Clauses 3 and 4 contain documentation of the current state of language binding efforts; Clause 5 addresses future directions for language bindings.

Circulation of this Technical Report is necessary at this stage, as input and discussion from representatives of ISO/IEC JTC1/SC21 (functional specification standards developers), ISO/IEC JTC1/SC24 (computer graphics standards developers), and ISO/IEC JTC1/SC22 (language standards developers) is urgently sought. The Technical Report in its current form may be useful for those about to embark on language binding developments.