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Part 3: C# implementation

Technlogies de l'information — Objet orienté BioAPI —

Partie 3: Mise en oeuvre de C#

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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 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.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*.

This second edition cancels and replaces the first edition (ISO/IEC 30106-3:2016), which has been technically revised.

The main changes compared to the previous edition are as follows:

— correction of typing errors;

— addition of AnalyseQuality method.

A list of all parts in the ISO/IEC 30106 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document specifies an application programming interface expressed in C# language. C# is intended to be a simple, general-purpose, object-oriented programming language that is aimed at enabling programmers to quickly build a wide range of applications for the Microsoft.NET platform.

One of the advantages of using C# is that, as it is designed for the CLI (Common Language Infrastructure), it allows multiple high-level languages to be used on different computer platforms without being rewritten for specific architectures.

C# shares some features (overloading, some syntactic details) with C++ but also includes new characteristics (reference and output parameters, enumerations, unified type system). Furthermore, C# is very similar to Java (interfaces, exceptions, object-orientation), which implies that the structure of interfaces and namespaces (which is the equivalent to packages in Java language) is mostly the same as Java but, as expected, code implementation and compilation are different.

As Java implementation allows an easy use of Java BSPs, Java-based application servers or Java applets, C# is the best way to write windows desktop and web applications/services and provides an advanced and well-designed remote framework.

Information technology — Object oriented BioAPI —

Part 3:
C# implementation

1 Scope

This document specifies an interface of a BioAPI C# framework and BioAPI C# BSP which mirror the corresponding components specified in ISO/IEC 30106-1. The semantic equivalence of this document will be maintained with ISO/IEC 30106-2 (Java implementation). In spite of the differences in actual parameters passed between functions, the names and interface structure are the same.

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 10646:2017, *Information technology — Universal Coded Character Set (UCS)*

ISO/IEC 30106-1, *Information technology — Object oriented BioAPI — Part 1: Architecture*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

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

4 BioAPI C# Namespace Structure

4.1 Overall structure

The BioAPI C# interface is divided into several namespaces. The following is the namespace structure:

— Namespace BioAPI: Contains functionality to manage units, BSPs, BFPs, the Framework and Applications.

— Namespace BioAPI.Data: Contains all the data structures.

4.2 Namespace BioAPI

4.2.1 Namespace description

This namespace contains all the components responsible for managing and executing the functionality of BioAPI. Component Registry interface is also defined in this namespace.