PD ISO/TR 19669:2017

BSI Standards Publication

Health informatics — Re-usable component strategy for use case development

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee IST/35, Health informatics.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2019

ISBN 978 0 580 95377 4

ICS 35.240.80

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This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 November 2019.

Amendments/corrigenda issued since publication

Date	Text affected

PD ISO/TR 19669:2017

TECHNICAL REPORT

ISO/TR 19669

First edition
2017-10

Health informatics — Re-usable component strategy for use case development

Informatique de santé — Stratégie de composants réutilisables pour le développement de cas pratiques

Reference number
ISO/TR 19669:2017(E)

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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Foreword

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For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 215, *Health informatics*.

This document is based in part on ISO/TR 21089 and ISO/HL7 10781.

Introduction

Use cases are often utilized to establish key objectives and requirements for software design and development, system testing, certification and implementation. This document offers a methodology for use case development that discovers common components of use case scenarios, then establishes a component catalogue for subsequent re-use and re-purposing of those components in new use case scenarios. The methodology establishes re-use as a key foundation for consistent infrastructure and build-out of software application systems in healthcare (and potentially other industries). Re-use of requirements often leads to re-use of software solutions (to those requirements). The methodology leads to uniformity in, and optimization of, requirement specification, standards and implementation guidance, software development, testing and certification and ultimately implementation. The methodology establishes the basis for requirements traceability, at each progression step, and end-to-end (use case to implementation).

TECHNICAL REPORT **ISO/TR 19669:2017(E)**

Health informatics — Re-usable component strategy for use case development

1 Scope

This document specifies a use case development methodology, facilitated by a dynamic catalogue of re-usable components. Use cases are a basic tool in describing requirements for health and healthcare settings, service provision, information technology and software products. Use case development often follows a uniform template with components such as actors, roles, scenarios, event steps, actions, data objects/elements and requirements statements. This document includes a basic use case template and the methods of component identification, capture, cataloguing and re-use. This document also includes guidance for software designed to implement the methodology in the form of a use case authoring tool.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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/

3.1
action
activity or task performed by an entity at a given point in time

Note 1 to entry: A use case event is comprised of one or more actions occurring in sequence.

Note 2 to entry: It can also be defined as an element of an event (step) that a user performs during a procedure (see ISO/IEC 26514).

3.2
actor
health professional, healthcare employee, patient/consumer, sponsored healthcare provider, healthcare organisation, subject of care, device, system or application that acts (performs a role) in a health related communication or service

[SOURCE: ISO 17090-1:2013, 3.1.3, modified]

3.3
assumption
condition that is accepted as true

Note 1 to entry: It can also be defined as factors that, for planning purposes, are considered to be true, real, or certain without proof or demonstration (see ISO/IEC/IEEE 24765) or a statement that describes the expected behaviours of a system or actors who will use the system (see Reference [20]).