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Health informatics—Personal health device communication

Part 10422: Device Specialization—Urine Analyzer

IEEE Engineering in Medicine and Biology Society

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IEEE 11073™ Standards Committee

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IEEE Engineering in Medicine and Biology Society

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Abstract: Within the context of the ISO/IEEE 11073 family of standards for device communication, a normative definition of communication between personal telehealth urine analyzer devices and compute engines (e.g., cell phones, personal computers, personal health appliances, and set-top boxes) is established by this standard in a manner that enables plug-and-play interoperability. Appropriate portions of existing standards are leveraged, including ISO/IEEE 11073 terminology, information models, application profile standards, and transport standards. The use of specific term codes, formats, and behaviors in telehealth environments restricting optionality in base frameworks in favor of interoperability is specified. A common core of communication functionality for personal telehealth urine analyzers is defined in this standard.

Keywords: IEEE 11073-10422™, medical device communication, personal health devices, urine analyzer

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Introduction

This introduction is not part of IEEE Std 11073-10422™-2016, Health informatics—Personal health device communication—Part 10422: Device Specialization—Urine Analyzer.

ISO/IEEE 11073™ standards enable communication between medical devices and external computer systems. This document uses the optimized framework created in IEEE Std 11073-20601™-2014 and describes a specific, interoperable communication approach for urine analyzers.[1] These standards align with and draw on the existing clinically focused standards to provide support for communication of data from clinical or personal health devices.

[1]Information on references can be found in Clause 2.

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Health informatics—Personal health device communication

Part 10422: Device Specialization—Urine Analyzer

1. Overview

1.1 Scope

Within the context of the ISO/IEEE 11073™ family of standards for device communication, this standard establishes a normative definition of communication between personal telehealth urine analyzer devices and managers (e.g., cell phones, personal computers, personal health appliances, set-top boxes) in a manner that enables plug-and-play interoperability. It leverages appropriate portions of existing standards including ISO/IEEE 11073 terminology, information models, application profile standards, and transport standards. It specifies the use of specific term codes, formats, and behaviors in telehealth environments restricting optionality in base frameworks in favor of interoperability. This standard defines a common core of communication functionality for personal telehealth urine analyzers.

1.2 Purpose

This standard addresses a need for an openly defined, independent standard for controlling information exchange to and from personal health devices and compute engines (e.g., cell phones, personal computers, personal health appliances, and set-top boxes). Interoperability is the key to growing the potential market for these devices and to enabling people to be better informed participants in the management of their health.

1.3 Context

See IEEE Std 11073-20601™-2014 for an overview of the environment within which this standard is written.[2]

This standard defines the device specialization for the urine analyzer, being a specific agent type, and it provides a description of the device concepts, its capabilities, and its implementation according to this standard.

This standard is based on IEEE Std 11073-20601-2014, which in turn draws information from both ISO/IEEE 11073-10201™:2004 [B8] and ISO/IEEE 11073-20101™:2004 [B9].[3] The medical device encoding rules (MDER) used within this standard are fully described in IEEE Std 11073-20601-2014.

This standard reproduces relevant portions of the nomenclature found in both ISO/IEEE 11073-10101:2004 [B7] and IEEE Std 11073-10101a™-2015 [B5], and adds new nomenclature codes for the purposes of this

[2]Information on references can be found in Clause 2.
[3]The numbers in brackets correspond to those of the bibliography in Annex A.