TECHNICAL SPECIFICATION

ISO/IEC

TS

29140-2

First edition
2011-10-01

Information technology for learning, education and training — Nomadicity and mobile technologies —

Part 2:
Learner information model for mobile learning

Technologies de l'information pour l'apprentissage, l'éducation et la formation — Nomadisme et technologies mobiles —

Partie 2: Modèle d'information des apprenants pour l'apprentissage mobile

Contents

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 other circumstances, particularly when there is an urgent market requirement for such documents, the joint technical committee may decide to publish an ISO/IEC Technical Specification (ISO/IEC TS), which represents an agreement between the members of the joint technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/IEC TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/IEC TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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 TS 29140-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 36, *Information technology for learning, education and training*.

ISO/IEC TS 29140 consists of the following parts, under the general title *Information technology for learning, education and training — Nomadicity and mobile technologies*:

⎯ *Part 1: Nomadicity reference model*

⎯ *Part 2: Learner information model for mobile learning*

Introduction

This part of ISO/IEC TS 29140 provides guidance regarding the use of a learner information model for mobile learning that can be used as a reference by software developers, implementers, instructional designers, trainers, automated systems, and learning management systems to ensure that learning, education, and training environments reflect the specific needs of mobile participants. In addition, this part of ISO/IEC TS 29140 provides a definition of mobile learning, and it delineates the relationship between mobile learning and nomadicity.

As schools, governments, organizations, and businesses around the world design information for access by mobile devices, there is an increased need to set standards for how information should be designed for delivery on mobile devices to support learning, education, and training. This increased need is necessitated by demand for learning and training materials that can be shared easily between organizations and learners and made available to those in any geographical location. Mobile learning has the potential to provide learners with enhanced access to information and learning materials, guidance and support from anywhere rather than from a specific geographical location at a certain time. When mobile learning is implemented thoughtfully and well, it potentially may increase efficiency and productivity for learning, education, and training within different sectors (e.g. public, private, voluntary). Mobile learning has the potential to provide learners with new opportunities to connect with other learners, to interact with instructors, and to co-create collaborative learning environments. This is a critical issue for learners who live in remote locations lacking wired connections. Learners living in these remote locations can use mobile technologies with wireless capabilities to connect with others in different locations. As a result, remote learners might feel less isolated, which could result in more learners completing their learning, education, or training activities using mobile technologies.

This part of ISO/IEC TS 29140 focuses on a device-centric approach to mobile learning. It acknowledges the affordances and limitations of devices to access resources and to support learners participating in activities within information technology for learning, education and training (ITLET) systems. In contrast, ISO/IEC TS 29140-1 focuses on providing a nomadicity reference model that describes the elements that need to be considered when learners are attempting to access resources and complete ITLET system activities while moving from location to location. It includes a description of the elements of learning environments from multiple perspectives. If mobile devices are being used and learners are nomadic, then both ISO/IEC TS 29140-1 and this part of ISO/IEC TS 29140 would be consulted. If, on the other hand, learning activities solely involve the use of mobile devices, then only this part of ISO/IEC TS 29140 would be consulted.

There are a number of research teams in organizations and communities who are working on mobile learning. Additionally, work is already in progress in various countries around the world on related topics such as learning in different contexts, learning while on the move, and the use of handheld computers in learning. Work is in progress on some of these issues at the W3C and the ITU-T. As this work progresses it is essential to prepare the groundwork to ensure that the design, development, implementation, and evaluation of mobile learning within learning, education, and training environments will take place in a manner that is seamless, flexible, and integrated. In short, mobile technology needs to be seamlessly integrated into teaching and learning activities that are supported by information and communication technology (ICT) in general.

Information technology for learning, education and training — Nomadicity and mobile technologies —

Part 2:
Learner information model for mobile learning

1   Scope

This part of ISO/IEC TS 29140 provides a learner information model specific to mobile learning that can be used as a reference by software developers, implementers, instructional designers, trainers, automated systems, and learning management systems to ensure that learning, education, and training (LET) environments reflect the specific needs of mobile participants. Since these needs impact on other standardization efforts and other work items in LET, a concise view is necessary.

This part of ISO/IEC TS 29140 provides

—   a definition of mobile learning that is appropriate for all sectors in LET,

—   the description of the learner information model for mobile learning,

—   specific learner information that supports learners engaged in mobile learning activities in LET environments.

In addition, this part of ISO/IEC TS 29140 provides some initial guidance regarding the issue of privacy. This includes ensuring that this part of ISO/IEC TS 29140 does not contravene any privacy requirements.

1.1   Exclusions

The scope of this part of ISO/IEC TS 29140 does not include the following:

—   in-depth technical review of issues related to adaptability to culture, language, and individual needs;

—   broad or in-depth technical interoperability issues of mobile computing domains;

—   security;

—   authentication.

1.2   Areas not currently addressed

This part of ISO/IEC TS 29140 currently does not include

—   in-depth details regarding privacy,

—   accessibility, and

—   detailed information regarding complementary work within other organizations that might be relevant (ITU-T, W3C, etc.).

2   Normative references

No normative references are cited.