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Systems and software engineering — Development and production of instructional videos

Systèmes et ingénierie du logiciel — Développement et production de vidéos pédagogiques

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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 or www.iec.ch/members_experts/refdocs).

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This document was prepared by Joint Technical Committee ISO/IEC/JTC 1, *Information technology,* Subcommittee SC 7, *Software and systems engineering,* in cooperation with the Systems and Software Engineering Standards Committee of the IEEE Computer Society, under the Partner Standards Development Organization cooperation agreement between ISO and IEEE.

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 and www.iec.ch/national-committees.

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Introduction

Instructional videos are dynamic audio-visual media that can be controlled by the user. These media motivate users to learn with scenarios that provide realistic simulations of products and services. Typical use cases for instructional videos are getting-started or onboarding, learning the general use of a product or service, learning the most common workflows and tasks in the software, or providing news about software and system updates.

Ineffective videos can frustrate system users and prevent them from performing their tasks fast, safely, and successfully. Existing standards (IEC/IEEE 82079-1 and ISO/IEC/IEEE 26514) cover the technical means of producing videos and the design and development of information for use but do not go into detail regarding instructional video as an effective means of providing information for users. Videos can present instructions for installation, operation, maintenance, and disposal for skilled or unskilled users. Instructional videos can include concepts, instructional steps, and reference material. This document does not cover learning methodology and principles governing effective learning.

Instructional videos are an integral part of the product or service. Therefore, producers, managers, specialists, and developers work within the life cycle processes of the software product, which are defined in ISO/IEC/IEEE 12207. In the context of instructional videos, "user" and "viewer" are equivalent; both forms are used in this document.

While the requirements and guidance on the design and development of information for users are fully applicable, instructional videos have specific requirements and are managed throughout the specific processes (Figure 1). The purpose of this document is to provide requirements and guidance on instructional video processes as well as the structure, content. and media suitable for instructional videos.

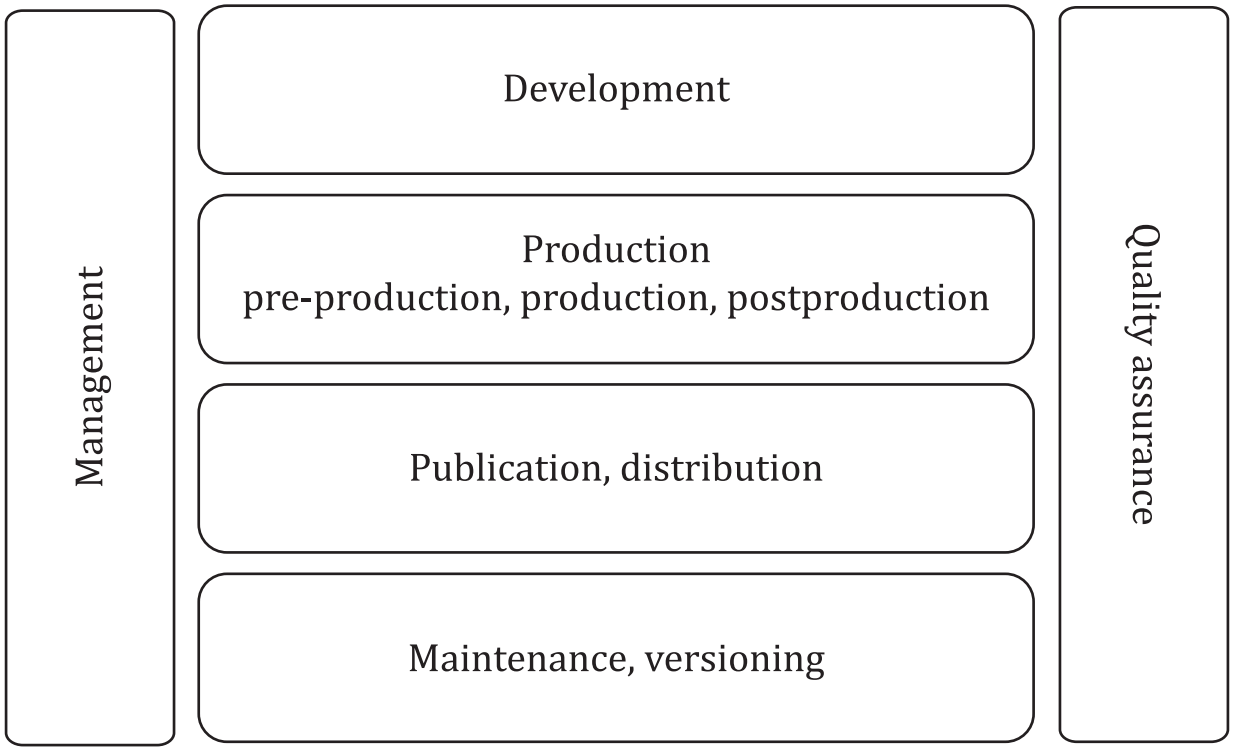


Figure 1 — Instructional video processes

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Systems and software engineering — Development and production of instructional videos

1 Scope

This document provides requirements and guidance for the effective planning, design, and development of instructional videos for information technology systems, products, and services. This document includes the use of video, interactive video or hypervideo, animation, and virtual or augmented reality to explain how to use software and systems including hardware. This document covers both standalone videos and the use of video segments in larger information products. This document specifies content elements, structure, and use of media, including music, narration, captions, titles, subtitles, and graphics.

This document does not include specifications of output media formats, content management for videos, or archiving. This document does not cover learning technology systems for recording and administering training programs.

This document is applicable to instructional video developers, including a variety of specialists, such as:

— information architects who plan the structure and format of information products;

— user experience specialists, customer experience specialists and business analysts who identify the tasks that the intended users can perform;

— reviewers or testers of instructional videos;

— graphic designers with expertise in electronic media;

— experts who design the usage and presentation of the system or service.

This document is also a reference for those with other roles and interests in the process of developing instructional videos.

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.

IEC/IEEE 82079-1:2019, *Preparation of information for use (instructions for use) of products – Part 1: Principles and general requirements*

ISO/IEC/IEEE 26514:2022, *Systems and software engineering — Design and development of information for users*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC/IEEE 26514 and the following apply.

ISO, IEC and IEEE maintain terminology databases for use in standardization at the following addresses:

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

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

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— IEEE Standards Dictionary Online: available at http://dictionary.ieee.org

NOTE For additional terms and definitions in the field of systems and software engineering, see ISO/IEC/IEEE 24765, which is published periodically as a "snapshot" of the SEVOCAB (Software and Systems Engineering Vocabulary) database and is publicly accessible at www.computer.org/sevocab.

3.1
accessibility
extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of user needs, characteristics and capabilities to achieve identified goals in identified contexts of use

Note 1 to entry: Although "accessibility" typically addresses users who have disabilities, the concept is not limited to disability issues.

[SOURCE: ISO 9241-112:2017, 3.15, modified — The original note 1 to entry has been replaced by a new one.]

3.2
animatic
series of images played in sequence, often with a soundtrack

Note 1 to entry: In essence, an animatic is an animated *storyboard* (3.16).

3.3
callout
short string of text connected by a line, arrow or similar graphic to a feature of an image giving information about that feature

3.4
clip
part of a *scene* (3.13)

3.5
close-miked
with a microphone placed very close to the source sound to capture more direct sound and minimize pickup of ambience and sounds from other sources

3.6
close-up
high level of detail on specific elements or actions, emphasising their importance in completing tasks

EXAMPLE In an instructional video, a close-up can focus on a specific step of a task, such as a close-up of hands performing a complex assembly, or a detailed view of a specific software feature being used.

3.7
contrast ratio
relative luminance of the lighter and darker of the colours

Note 1 to entry: A definition of this metric can be found in W3C Web Content Accessibility Guidelines (WCAG) 2.0.

3.8
cut
omitted action or compressed time and space to create connections between actions that are otherwise difficult to show

EXAMPLE In an instructional video, a cut can be used to skip repetitive or unnecessary parts of a process and focus on the essential actions needed to complete the task.

3.9
footage
section of a video that has been *shot* (3.15) or recorded

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3.10
life cycle
evolution of a system, product, service, project, or other human-made entity from conception through retirement

[SOURCE: ISO/IEC/IEEE 12207:—, 3.1.34]

3.11
match cut
link between two different settings with the same action that gives the impression of a continuous movement over two or more *shots* (3.15)

3.12
onion skinning
animation function allowing successive frames of an animation to be overlaid or viewed together for smooth *transition* (3.17) of moving objects

3.13
scene
part of a video with a focus on a single task or action

3.14
script
document describing the narrative and dialogue of the instructional video in detail

Note 1 to entry: It is the equivalent of a film screenplay.

3.15
shot
video sequence recorded continuously by one camera

3.16
storyboard
graphic organizer that consists of illustrations, images or text displayed in sequence for the purpose of pre-visualizing a video sequence

3.17
transition
cut (3.8) between alternative sequences

3.18
voiceover
spoken words or narration in an instructional video communicated by an unseen narrator or an onscreen character not seen speaking

4 Conformance

An organization may claim conformance to the requirements in this document for its instructional video development processes, or for its instructional videos, or for both. Full conformance to processes is achieved by demonstrating that all the requirements in Clause 6 have been achieved. Full conformance of products is achieved by demonstrating that all the requirements of Clause 7 have been achieved.

This document is meant to be tailored so that only necessary and cost-effective requirements are applied to instructional videos. Tailoring may take the form of specifying approaches to conform to its requirements or altering its recommendations and approaches to reflect the instructional videos more explicitly.

NOTE The tailoring process is described in ISO/IEC/IEEE 12207:—, Annex A.

This document may be included or referenced in contracts or similar agreements when the parties (called the acquirer and the supplier) agree that the supplier is required to deliver instructional videos in accordance with this document. It may also be adopted as an in-house standard by a project or organization that decides

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