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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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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.

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.
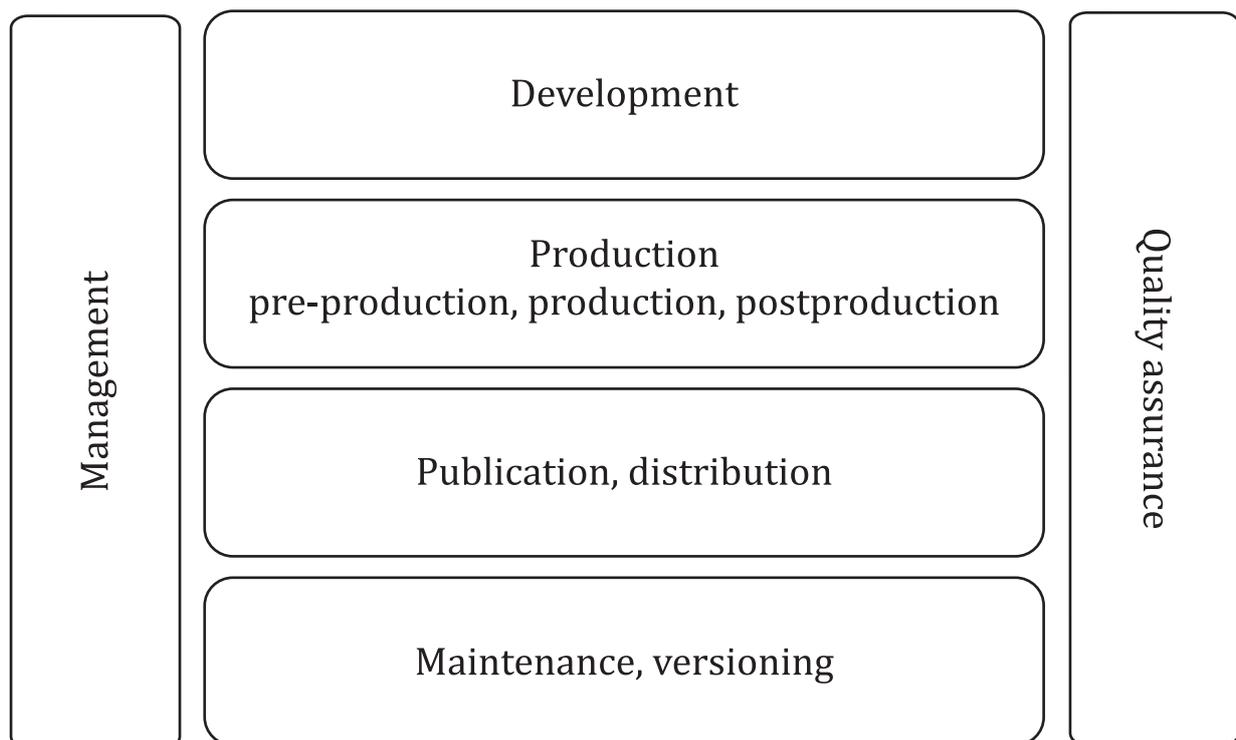

Figure 1 — Instructional video processes

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*

Bibliography

[1]   ISO 9241-110:2020, *Ergonomics of human-system interaction — Part 110: Interaction principles*

[2]   ISO 9241-112:2017, *Ergonomics of human-system interaction — Part 112: Principles for the presentation of information*

[3]   ISO/IEC/IEEE 12207:—[1]), *Systems and software engineering — Software life cycle processes*

[4]   ISO/IEC/TS 20071-21, *Information technology — User interface component accessibility — Part 21: Guidance on audio descriptions*

[5]   ISO/IEC 20071-23, *Information technology — User interface component accessibility — Part 23: Visual presentation of audio information (including captions and subtitles)*

[6]   ISO/IEC/TS 20071-25, *Information technology — User interface component accessibility — Part 25: Guidance on the audio presentation of text in videos, including captions, subtitles and other on-screen text*

[7]   ISO 24495-1, *Plain language — Part 1: Governing principles and guidelines*

[8]   ISO/IEC/IEEE 24765, *Systems and software engineering — Vocabulary*

[9]   ISO/IEC/IEEE 26511:2018, *Systems and software engineering — Requirements for managers of information for users of systems, software, and services*

[10]   ISO/IEC/TR 29138-2, *Information technology — Accessibility considerations for people with disabilities — Part 2: Standards inventory*

[11]   ISO/IEC 30071-1, *Information technology — Development of user interface accessibility — Part 1: Code of practice for creating accessible ICT products and services*

[12]   IEEE 9274.1.1, *Learning Technology — JavaScript Object Notation (JSON) Data Model Format and Representational State Transfer (RESTful) Web Service for Learner Experience Data Tracking and Access*

[13]   W3C, *Scalable Vector Graphics (SVG) 2*

[14]   W3C, *Web Content Accessibility Guidelines (WCAG) 2.0*

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1)   Under preparation. Stage at the time of publication: ISO/IEC/IEEE FDIS 12207:2025.