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Information technology for learning, education, and training — Human factor guidelines for virtual reality content

Part 2: Considerations when making VR content

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National foreword

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TECHNICAL REPORT

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Information technology for learning, education, and training — Human factor guidelines for virtual reality content —

Part 2: Considerations when making VR content

Technologies de l'information pour l'apprentissage, l'éducation et la formation — Lignes directrices relatives aux facteurs humains pour les contenus en réalité virtuelle —

Partie 2: Éléments à prendre en compte lors de la création de contenus en réalité virtuelle

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Contents

Page

Foreword

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

A list of all parts in the ISO/IEC 23842 series can be found on the ISO website.

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Introduction

As industries related to virtual reality (VR) have grown, attempts have been made to bring these technologies into the learning, education and training (LET) domain. VR technology is expected to be introduced into the world of primary and secondary education in the next two to three years.[1] However, there are gaps in criteria between educational experts and content makers when it comes to developing VR content. For example, educational experts say that it is necessary for the learner to distinguish between the virtual world and reality. On the other hand, content makers try to enhance immersion by not distinguishing between the virtual world and reality. Requirements of devices, such as hardware specifications, currently cover only minimum levels for content making.

Many of the issues raised in this document are not limited to the LET domain and can be applied in any environment that uses VR contents.

Annex A provides an example of guidelines for users.

TECHNICAL REPORT **ISO/IEC TR 23842-2:2020(E)**

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Part 2: Considerations when making VR content

1 Scope

This document presents considerations for making VR content for the learning education and training (LET) domain.

This document addresses VR content that uses a head-mounted display (HMD) in the LET domain. It does not address VR content using immersive technology and does not address augmented reality, mixed or merged reality content.

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
virtual reality
VR
virtual reality has a high level of immersiveness, fidelity of information representation, and degree of active learner participation compared to other forms of mixed reality

[SOURCE: ISO/IEC TR 18121:2015, 3.6]

3.2
mixed reality
display continuum in which both real and virtual images are combined in some way and in some proportion

Note 1 to entry: Augmented reality (AR) and virtual reality (VR) are considered to be on the mixed reality continuum.

3.3
immersive technology
tools that enable the integration of virtual content and the physical environment in a manner that supports user engagement with the resulting blended reality

Note 1 to entry: Some types of immersive activities and experiences include virtual reality, augmented reality, pervasive games, digital twins, telepresence and holography.