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SERIES P: TERMINALS AND SUBJECTIVE AND
OBJECTIVE ASSESSMENT METHODS

Audiovisual quality in multimedia services

Subjective video quality assessment methods for recognition tasks

Recommendation ITU-T P.912

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Recommendation ITU-T P.912

Subjective video quality assessment methods for recognition tasks

Summary

Recommendation ITU-T P.912 defines subjective assessment methods for evaluating the quality of one-way video used for target recognition tasks. "Target" refers to something in the video that the viewer needs to identify (e.g., a face, object, or number). Target recognition video (TRV) is video that is used as a tool in order to accomplish a specific goal through the ability to recognize specific targets of interest in a video stream. TRV can be used in various video services such as surveillance, human identification, licence plate identification, telemedicine, robot control, and remote monitoring and decision-making.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T P.912	2008-08-13	9	11.1002/1000/9514
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* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

FOREWORD

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The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

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In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at <http://www.itu.int/ITU-T/ipr/>.

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Subjective video quality assessment methods for recognition tasks

1 Scope

This Recommendation defines subjective assessment methods for evaluating the quality of one-way video used for target recognition tasks. "Target" refers to something in the video that the viewer needs to identify (e.g., a face, object, or number). Target recognition video (TRV) is video that is used as a tool in order to accomplish a specific goal through the ability to recognize specific targets of interest in a video stream. TRV can be used in various video services such as surveillance, human identification, licence plate identification, telemedicine, robot control, and remote monitoring and decision-making.

This Recommendation considers three categories of target:

- 1) human identification (including facial recognition);
- 2) object identification;
- 3) alphanumeric identification.

Each of these areas requires specific video test material that spans realistic conditions with stimuli that are carefully chosen to allow multiple scenarios to be created repeatedly with different objects of interest, in different lighting conditions or with small changes in scene details.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [ITU-T P.910] Recommendation ITU-T P.910 (2008), *Subjective video quality assessment methods for multimedia applications*.
- [ITU-T P.913] Recommendation ITU-T P.913 (2016), *Methods for the subjective assessment of video quality, audio quality and audio-visual quality of Internet video and distribution quality television in any environment*.

3 Definitions

This Recommendation defines the following terms:

3.1 discrimination class (DC): One of four levels of visual discrimination at which the target can be analysed.

- Elements of the action – in a very broad and general sense, identification of the series of events that took place.
- Target presence – recognition or detection of the presence or absence of valid targets.
- Target characteristics – recognition of unique characteristics of the target (e.g., markings, scars, tattoos, dents, colour).
- Target positive recognition – recognition of a specific instance of the target (e.g., recognition of a person, a specific object, or an exact alphanumeric sequence).