

International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

P.1302

(10/2014)

SERIES P: TERMINALS AND SUBJECTIVE AND
OBJECTIVE ASSESSMENT METHODS

Telemeeting assessment

**Subjective method for simulated conversation
tests addressing speech and audio-visual call
quality**

Recommendation ITU-T P.1302

ITU-T



ITU-T P-SERIES RECOMMENDATIONS
TERMINALS AND SUBJECTIVE AND OBJECTIVE ASSESSMENT METHODS

Vocabulary and effects of transmission parameters on customer opinion of transmission quality	Series	P.10
Voice terminal characteristics	Series	P.30
		P.300
Reference systems	Series	P.40
Objective measuring apparatus	Series	P.50
		P.500
Objective electro-acoustical measurements	Series	P.60
Measurements related to speech loudness	Series	P.70
Methods for objective and subjective assessment of speech quality	Series	P.80
		P.800
Audiovisual quality in multimedia services	Series	P.900
Transmission performance and QoS aspects of IP end-points	Series	P.1000
Communications involving vehicles	Series	P.1100
Models and tools for quality assessment of streamed media	Series	P.1200
Telemeeting assessment	Series	P.1300
Statistical analysis, evaluation and reporting guidelines of quality measurements	Series	P.1400
Methods for objective and subjective assessment of quality of services other than voice services	Series	P.1500

For further details, please refer to the list of ITU-T Recommendations.

Recommendation ITU-T P.1302

Subjective method for simulated conversation tests addressing speech and audio-visual call quality

Summary

Recommendation ITU-T P.1302 describes a subjective method for assessing the quality of simulated speech or audio-visual telephony calls with time-varying transmission conditions. Simulated calls consist of several stretches of speech or audio-visual material which are ordered in a logical sequence, according to a storyline defined by a scenario. After each stretch, test participants have to answer a content-related question, and they have to rate the overall quality of the call at the end of the entire sequence. The method is meant as a complement to standard listening-only or conversational tests, provoking a fixed structure in the material to be judged, while maintain a more-or-less conversational attention focus of the test participants.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T P.1302	2014-10-29	12	11.1002/1000/12325

Keywords

Audio-visual quality, call quality, conversation quality, speech quality, subjective methodology.

* 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

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

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.

NOTE

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

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

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/>.

© ITU 2015

All rights reserved. No part of this publication may be reproduced, by any means whatsoever, without the prior written permission of ITU.

Table of Contents

	Page
1 Scope.....	1
2 References.....	2
3 Definitions	2
3.1 Terms defined elsewhere	2
3.2 Terms defined in this Recommendation.....	2
4 Abbreviations and acronyms	2
5 Conventions	3
6 Subjective test methodology.....	3
6.1 Simulated conversation test addressing speech quality.....	3
6.2 Simulated conversation tests addressing audio-visual quality	4
6.3 Features of the text material	4
6.4 Pre-processing of the short segments	4
6.5 Questions and post-screening of participants	4
Appendix I – Exemplary scenarios for simulated conversations addressing speech quality and audio-visual quality.....	6
Appendix II – Exemplary questions and answers to the scenarios from Appendix I.....	11
Appendix III.....	41
Bibliography.....	42

Recommendation ITU-T P.1302

Subjective method for simulated conversation tests addressing speech and audio-visual call quality

1 Scope

In this Recommendation, a subjective test procedure is described which is able to assess the quality of speech or audio-visual telephone calls, the so-called "call quality". In contrast to standard listening-only tests as described in [ITU-T P.800], call quality refers to the experience of a user during a typically 1-2 min long call. Such experiences are commonly addressed in conversation tests as described in [ITU-T P.800] and [ITU-T P.805], however real conversation tests commonly lack analytical power, because naïve test participants have to concentrate mainly on the flow of the conversation, and are unable to rate instances of good or bad quality. In turn, methods for the continuous assessment of quality as described in [ITU-T P.880] do not put the listener in a situation which is comparable to a conversation.

In order to circumvent this problem, ETSI has developed a method for "simulated conversation tests" in [b-TR 102 506], which has been adopted in this Recommendation and extended to audio-visual telephony. Simulated conversations consist of a number of short (8-12 s) stretches of speech, typically five, which are presented to the listening or listening-and-viewing test participants, and which follow a logical storyline. After each stretch of speech, the test participant has to answer a short content-related question, e.g., in terms of an answer to a multiple-choice question. Following the answer, the next stretch of speech or audio-visual material is presented, followed by the next question, and so forth until the end of the logical sequence is reached. Upon the end of the sequence, the test participant has to judge the perceived quality of the entire call on a standard (typically five-point ACR according to [ITU-T P.800] and [ITU-T P.911]) quality scale. Those multiple-choice questions may refer to information transmitted via the audio, video or audio-visual modality.

Quality of short segments can either be predicted with subjective methods, e.g., [ITU-T P.911] for audiovisual segments or [ITU-T P.800] for speech segments, or can be assessed with instrumental models like [ITU-T P.863] or [ITU-T J.341], in order to analyse the relationship between the quality of individual samples and the quality of the entire call as assessed with this Recommendation.

The method is not intended to replace listening-only tests according to [ITU-T P.800] or listening-and-viewing tests according to [ITU-T P.911], or speech conversation tests according to [ITU-T P.800] or audio-visual conversation tests according to [ITU-T P.920]. Rather, it is recommended to make use of the appropriate method as follows:

- In case that the listening-only or listening-and-viewing quality is of interest and that the quality is considered to be constant throughout the duration of a speech-only or audio-visual call, the method according to [ITU-T P.800] or [ITU-T P.911] should be used. [ITU-T P.800] is, however, not recommended for longer durations.¹
- In case that the listening-and-viewing quality is of interest and that the quality is considered not to be constant throughout the duration of a speech-only or audio-visual call, the present method should be used; in contrast to the task of rating overall quality in [ITU-T P.880] it addresses also audio-visual material and aims at establishing a more valid situation by introducing active participation of the participants.

¹ A validation within ITU-T SG12 has revealed no significant differences between the results of a [ITU-T P.911] test and a test according to the present simulated conversation test method results, for a limited number of constant audio, video or audio-visual quality degradations.

- In case that conversational quality which may be impacted by conversation-specific degradations like echo or delay is of interest, the method according to [ITU-T P.800], [ITU-T P.805] or [ITU-T P.920] should be used.

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 J.341] Recommendation ITU-T J.341 (2011), *Objective perceptual multimedia video quality measurement of HDTV for digital cable television in the presence of a full reference*.
- [ITU-T P.10] Recommendation ITU-T P.10/G100 (2006), *Vocabulary for performance and quality of service*.
- [ITU-T P.800] Recommendation ITU-T P.800 (1996), *Methods for subjective determination of transmission quality*.
- [ITU-T P.805] Recommendation ITU-T P.805 (2007), *Subjective evaluation of conversational quality*.
- [ITU-T P.863] Recommendation ITU-T P.863 (2011), *Perceptual objective listening quality assessment*.
- [ITU-T P.880] Recommendation ITU-T P.880 (2004), *Continuous evaluation of time-varying speech quality*.
- [ITU-T P.911] Recommendation ITU-T P.911 (1998), *Subjective audiovisual quality assessment methods for multimedia applications*.
- [ITU-T P.920] Recommendation ITU-T P.920 (2000), *Interactive test methods for audiovisual communications*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 conversational quality [ITU-T P.10]: Quality with which a bi- or multidirectional conversation is perceived by a communication partner.

3.1.2 conversational speech quality [ITU-T P.10]: Speech quality as experienced in a bi- or multidirectional conversation.

3.2 Terms defined in this Recommendation

This Recommendation defines the following term:

3.2.1 call quality: Listening quality as perceived by a user at the end of a conversational call.

4 Abbreviations and acronyms

None.

5 Conventions

None.

6 Subjective test methodology

The characteristics of this methodology are as follows:

- By orally answering the questions related to each stretch of speech, test participants should be made to be involved in a conversation; nevertheless, the situation is a pure listening or listening-and-viewing one, allowing the test participants to concentrate more on the form of the media than it would be possible in a real conversation.
- The conversation is highly structured; in fact, it consists of short samples as they are used in standard listening-only or watching and listening-only tests according to [ITU-T P.800] and [ITU-T P.911].

Details of the methodology are described in the following paragraphs; the method is thus particularly tailored to situations where the quality varies over the time of a call.

6.1 Simulated conversation test addressing speech quality

A typical telephony situation is a dialogue between two persons in which both interlocutors have a certain amount of speaking and listening activity. Thus, the test situation is divided into parts with listening-only activity and parts with speaking activity. It is supposed that both participants in a conversation are interested in the conversation topic; in the test, this is realized by the test participant being asked for certain aspects of the content, thus to direct the focus of attention to the content of the presented speech stimuli, as it would be in a natural conversation situation.

In order to ensure the ecological validity of the test, typical contents of telephone conversations are chosen (e.g., request for a rental car, discussing the furniture in a room). The realization of such a simulated conversation consists of a series of shorter "utterances", which have a pause between them for interaction but are connected logically with regard to the content of the presentation. Instead of the own speech activity as a reply, an artificial content-directed task is to be done by the test participants. For example, test participants have to answer a question related to the content of the past stimulus, which can be done by keyword spotting.

The speech samples used for the test should address topics like in a natural telephone situation. A simulated conversation consists of five samples of approximately 8-12 seconds and is constructed in such a way that four breaks are possible. After the fifth test stimulus, the participant is asked for an assessment for the overall call quality of the simulated call, instead of the content-related question. The questions asked to the participants after each sample of the simulated conversations and the corresponding answer options are presented on paper or on a computer screen after each sample. For each sample, a set of different questions is recommended in order to prevent test participants from memorizing the answers. The position of the right answer should also be randomly changed in order to avoid participants answering mechanically. The number of multiple choice answer options may vary between three and five. Simulated calls should be constructed for at least four speakers balanced in gender and comprising different scene backgrounds and conversation topics.

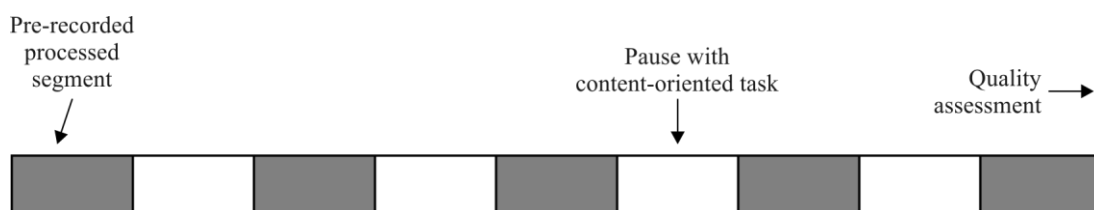


Figure 1 – Schematic representation of the simulated conversation structure

Figure 1 shows an exemplary structure of such a simulated conversation, using samples of 12 second length. The used speech material consists of five speech parts (samples), which correspond to the utterances of one party. After a 12 seconds speech sample there is a 12 seconds pause during which the test person had to perform a content regarding task. At the end of the sequence a score for the Call Quality is solicited from the test participants using an absolute category rating scale as described in [ITU-T P.800]. Thus, the overall length of the simulated conversation is approx. 120 seconds, including the answering and quality-rating phases.

6.2 Simulated conversation tests addressing audio-visual quality

Similar to the methodology for speech-only call quality, a simulated videotelephony conversation is constructed as a set of five consecutive samples of short video clips. The samples are linked by the storyline. Participants are asked to watch each clip and then to verbally answer a question about the audiovisual content of the clip. The question could be related to the auditory content only, to the video content only, or to the audiovisual one, that is to say, a question that could be answered by using clues from both visual and auditory channels. The questions asked to the participants after each sample of the simulated conversations and the corresponding answer options are presented on a computer screen after each sample. The number of multiple choice answer options may vary between three and five. For each sample, a set of different questions is recommended in order to prevent test participants from memorizing the answers. The position of the right answer should also be randomly changed in order to avoid participants answering mechanically.

Audiovisual clips should be composed of at least four speakers balanced in gender, comprising different scene backgrounds and conversation topics. The clips should involve the video channel by the means of visual cues (i.e., showing objects to the camera, pointing dates on a wall calendar, body gestures), so that the test participants have to pay attention to the video channel. The video clips and the time period allowed to answer each question should have approximately the same length, leading to a total duration of 10 times the stimulus length or 8-12 seconds. At the end of each simulated conversation, test participants have to rate the audiovisual quality of the entire dialog using a standard overall quality scale, as recommended in [ITU-T P.911].

6.3 Features of the text material

When creating text material for recording the short stimuli, a whole scenario should be decided upon first, so each stimulus (utterance) represents an authentic sequel of the previous stimuli. Validated so far have been scenarios using a narrative form, i.e., without implying interlocutor's verbal action. In that way, listeners/raters are not confused when just answering questions instead of reacting on the stimuli, and two short utterances can be combined to one longer stimulus, if desired.

Also, each utterance should provide more than one important piece of information. That allows for more questions, but also prohibits a too easy listening task.

For the audio-visual tests, information should be spread on the two modalities, and accordingly, questions should be drafted explicitly addressing either audio or video transmitted information. See Appendices I and II for examples.

6.4 Pre-processing of the short segments

The original samples should be processed to obtain transmission quality as needed. As this method aims at time-varying transmission characteristics, changes in transmission characteristics can be induced between or within the short segments. Example profiles already used are illustrated in Appendix III.

6.5 Questions and post-screening of participants

During the development of this method, the participant's answers have been recorded. But it has been shown that noting errors during a session was easily manageable by the instructor to automatically

calculate the error rates. The purpose of this post-evaluation screening is to find possible outliers, i.e., participants who obviously did not concentrate sufficiently on the content or all modalities provided in order to give valid ratings of call quality. As with strongly degraded transmission, errors may occur independent of concentration, it is suggested to define the exclusion criterion depending on the performance of subjects throughout the test. The alternative answers should be displayed on a screen without alpha-numerical labels to prevent participants just referring to these labels, but uttering (at least parts of) the answer.

Furthermore, while questions concerning audio, video or audio-visual content can be used, without observing major difference in the perceived quality of the samples, a combination of audio and video content questions is preferred in order to prevent priming towards one modality.

Appendix I

Exemplary scenarios for simulated conversations addressing speech quality and audio-visual quality

(This appendix does not form an integral part of this Recommendation.)

This Recommendation is based on experiments, which were originally partially carried out in German. Because of this, the original German scenario descriptions are added here for completeness. In principle, experiments following this procedure should be carried out in the language under consideration, using scenario description in that language. A re-translation of the English scenario descriptions into German might provide slightly different results when compared to the original experiments.

The following scenarios are designed to combine sentences (e.g., two) to one single stimulus.

Scenario 1: Scheduling medical treatment

- 1) Hello, this is Markus Lehmann. I would like to make an appointment concerning the treatment of my back complaint as discussed. [point to your back]
- 2) We had agreed on six weeks with two radiation sessions each. I would like to start the treatment now. [go to the wall calendar]
- 3) In the morning I am always busy. But on Tuesdays and on Thursdays would be fine. [point to Tuesday and Thursday on the calendar]
- 4) There is no way to come on Wednesdays, as I attend a language course at these days. I would like best to have regular appointments. [point to a huge blocker on Wednesday]
- 5) Besides, do you think that additional gymnastic exercises could decrease my afflictions in the long run? [do some exercises]
- 6) I was thinking about an introduction under the tutelage of a physiotherapist. Maybe, that could be a good complement to the radiation. [do some more exercises]
- 7) I hope the treatment costs will be fully paid by the health insurance. For this treatment, however, I do not know for certain.
- 8) Yesterday, I read in a newspaper once more about the approval of new austerity plan, mainly concerning the amount of assumption of costs. [show a newspaper]
- 9) Additionally, I would like to make an appointment with your partner in the group practice, the dentist Dr Kollwitz.
- 10) The date can even be next month. I would actually prefer it next month, as I am very busy this one. [point to the end of the month on a calendar]

(German)

- 1) Guten Tag, hier ist Marcus Lehmann. Ich hätte gerne einen Termin bei Ihnen wegen der besprochenen Behandlung meiner Rückenbeschwerden. [Zeigt auf seinen Rücken]
- 2) Wir hatten abgestimmt, dass ich sechs Wochen lang je zwei Bestrahlungen bekommen soll. Ich würde die Behandlung nun gerne beginnen. [Geht zum Wandkalender]
- 3) Auf keinen Fall kann ich vormittags. Dienstags und donnerstags wäre es mir sehr recht. [zeigt am Wandkalender auf Dienstag und Donnerstag]
- 4) Mittwoch ist bei mir unmöglich, da ich an diesem Tag einen Sprachkurs besuche. Am liebsten wären mir regelmäßige Termine. [Zeigt am Wandkalender auf Mittwoch, wo ein großer Blocker steht]

- 5) Außerdem möchte ich Ihre Meinung dazu hören, ob zusätzliche Gymnastik meine Beschwerden vielleicht langfristig verringern könnte. [Macht etwas Gymnastik in die Kamera]
- 6) Ich denke an eine Einführung unter Anleitung einer Krankengymnastin. Vielleicht ist das eine gute Ergänzung zu den Bestrahlungen. [Macht weiterhin Gymnastik]
- 7) Ich hoffe, die Kosten der Behandlung werden komplett von der Krankenkasse übernommen. Allerdings weiß ich nicht, ob es auch meine Behandlung betrifft.
- 8) Gestern habe ich wieder in der Zeitung gelesen, dass neue Sparpläne verabschiedet worden sind, die hauptsächlich die Höhe der Eigenbeteiligung betreffen. [Hält eine Zeitung in die Kamera]
- 9) Zusätzlich möchte ich noch einen Gesprächstermin mit Ihrer Praxispartnerin, der Zahnärztin Dr. Kollwitz, vereinbaren.
- 10) Der Termin kann ruhig erst im nächsten Monat liegen. Das ist mir sogar lieber, da ich diesen Monat sehr beschäftigt bin. [Zeigt am Wandkalender das Ende des Monats]

Scenario 2: Car Rental

- 1) Hello, this is Maria Eibig and I would like to rent a car. [grab a catalogue and show it]
- 2) A bigger estate car would be sufficient. But if a van is cheaper I would also take one of those.
- 3) I would prefer midweek, that is Wednesday. At that day I would need the car close to half past 8 pm. [show a picture with an estate car]
- 4) But if you offer a special rate for the weekend, I would do my transport then. [point to a wall calendar behind you]
- 5) For me it is important to take out an assurance for the car. I would also take the small trolley as per your offer. [point to the weekend on the calendar]
- 6) Additionally, I would like to have a mileage allowance for more than 500 kilometres and blankets as packaging material.
- 7) I would like to pay with my credit card. My customer number is 24 12. [show your credit card]
- 8) Last time I rented a Golf. That was beginning of last month. [point at the begin of the month on the calendar]
- 9) That time I returned the car fully fuelled. This time I will not manage to do so, as I will come back not until the evening. [shake your head]
- 10) I will then bring the car directly to your car park and return the following morning to do the billing. [point to a certain position on a map]

(German)

- 1) Guten Tag, hier ist Maria Eibig und ich möchte bei Ihnen gern einen Wagen reservieren. [Hole die Broschüre eines Autoverleihers heraus und halte sie in die Kamera]
- 2) Ein größerer Kombi reicht mir dafür aus, wenn ein Kleintransporter preiswerter ist, würde ich auch diesen nehmen. [Zeige ein Bild mit einem Kombi]
- 3) Mir wäre Mitte der Woche, also Mittwoch, am liebsten. Da würde ich den Wagen gegen zwanzig Uhr dreißig benötigen. [Zeige dabei auf einen Wandkalender hinter Dir]
- 4) Wenn sie einen Spezialtarif am Wochenende anbieten, würde ich den Transport auch am Wochenende machen. [Zeige am Wandkalender auf das Wochenende]
- 5) Wichtig ist mir noch der Abschluss einer Versicherung für das Fahrzeug. Den kleinen Rollwagen aus Ihrem Programm nehme ich ebenfalls mit.

- 6) Außerdem brauche ich eine Kilometerpauschale von über 500 Kilometern und Decken als Verpackungsmaterial.
- 7) Ich habe eine Kreditkarte mit der ich den Wagen bezahlen möchte. Meine Kundennummer ist 24 12. [Zeige die Kreditkarte in die Kamera]
- 8) Zuletzt hatte ich mir einen Golf geliehen. Das war am Anfang des letzten Monats. [Zeige im Kalender auf den Monatsbeginn]
- 9) Das letzte Mal hatte ich den Wagen vollgetankt zurückgegeben. Diesmal werde ich das wohl nicht schaffen, da ich erst abends zurückkomme. [Kopf schütteln]
- 10) Ich fahre den Wagen dann gleich auf Ihren Firmenparkplatz und komme dann am darauffolgenden Morgen zu Ihnen zur Abrechnung. [Zeige auf einen Punkt auf einer Karte]

Scenario 3: Kitchen purchase order

- 1) Hello. I would like to order a built-in kitchen. Would it be possible to talk to Mrs Müller? [show a catalogue]
- 2) She consulted me in your salesrooms and we loosely agreed upon calling her until Wednesday.
- 3) I decided on the version in light grey. Giving a thought to it, a white kitchen appeared to be too cold to me. [show a picture of a light grey kitchen]
- 4) Furthermore, I would like to have the doorknobs with the lozenge shape, as the round shape is a little bit too small in my opinion. [show a detailed picture of the doorknob]
- 5) Concerning the sink I consider taking a single unit. Thereby there is still space for a dishwasher. [show a picture of a sink]
- 6) I decided on the small dishwasher from the brand "Futura". Do you have one of these on offer? [show a picture of a small washer]
- 7) I suppose this washer provides aqua-stop. If not, I would rather take the next bigger model. [point to a "Aqua-Stop" label; alternatively change to "energy label"]
- 8) I am not decided yet on the cooker. I would like best to have one with glass-ceramic top and sensor circuitry. [point to top in the catalogue]
- 9) I am fine with the table. I would like to have one in the size of 100x160 cm. [show roughly the size with your hands in the air]
- 10) If I understood the catalogue correctly, it can be extended to the length of 200 cm. [show the extended size]

(German)

- 1) Hallo, ich möchte bei Ihnen gerne eine Einbauküche bestellen. Ist es möglich, dass ich mit Frau Müller spreche? [Zeigt eine Küchenbroschüre in die Kamera]
- 2) Sie hat mich in Ihren Verkaufsräumen beraten und ich hatte grob mit Ihr abgesprochen, dass ich mich bis Mittwoch bei Ihr melden werde.
- 3) Ich habe mich für die Variante in Hellgrau entschieden. Eine weiße Küche kam mir bei längerer Überlegung doch zu kalt vor. [Zeigt das Bild einer hellgrauen Küche in die Kamera]
- 4) Außerdem möchte ich alle Türknäufe in Rautenform, die Runden sind mir doch ein wenig zu klein. [Zeigt das Detailbild von Türknäufen]
- 5) Für die Spüle habe ich mir überlegt, doch nur ein Becken zu nehmen. Dadurch bleibt Platz für eine Spülmaschine. [Zeigt das Bild eines Spülbeckens]
- 6) Ich habe mich für die schmale Maschine der Firma Futura entschieden. Haben Sie so ein Gerät im Angebot? [Zeige eine schmale Maschine im Katalog]

- 7) Ich nehme an, dass diese Maschine über einen Aqua-Stop verfügt. Falls nicht möchte ich lieber das nächst größere Modell. [Zeige Aqua-Stop Label im Katalog; alternativ ändern in Energiesparlabel]
- 8) Bei dem Herd bin ich mir noch nicht sicher. Am liebsten hätte ich ein Gerät mit Glaskeramik Kochfeldern und Sensorschaltung. [zeige Kochfeld im Katalog]
- 9) Der Tisch gefällt mir gut. Ich hätte ihn gerne in der Größe 100 x 100 cm. [Zeigt die gewünschte Größe in der Luft]
- 10) Wenn ich den Prospekt richtig verstehe lässt er sich auf eine Länge von 150 cm vergrößern. [Zeigt eine Vergrößerung in die Luft]

Alternative Scenario 4: Birthday party

- 1) Hi Jan. Last Saturday I went to Peter's birthday party. It was really great! [please wave and make an inviting facial expression]
- 2) There I met an old acquaintance. Here is a photo of our old friends with me. This is Stefan, Linda, and Markus. [show the photo and point to Stefan, Linda, and Markus each at a time]
- 3) After dinner a band arrived at the party and played music. I believe the guests really enjoyed it. Spirits were running high. Here is a shot. [show photo of people dancing in front of a band]
- 4) Do you remember Julia from our time at school? The two of us danced in the garden and she even taught me a break-dance move. Have a look. [show a photo of Julia and do a dance move]
- 5) At midnight we all gathered around a big cake to sing "happy birthday". The cake was made by Peter's mother. It was marvellous.
- 6) Before having the cake Peter received his presents. He got a drum set jointly from his parents and friends. Here is a photo. [show a picture from a drum set]
- 7) I talked with some of our old friends about the good old days at school and told each other funny story from back then. We laughed quite a bit. [smile and laugh]
- 8) When Peter's brother had to go to sleep, we sang a children's song, so he could fall asleep. [sing a children's song]
- 9) Then, Peter's parents told me details about their journey to Asia. They also told me how to use eating sticks. Like this. [show using eating sticks]
- 10) I would like to meet you this week eventually and talk a while. I wish you well. Goodbye. [wave goodbye and smile]

(German)

- 1) Hallo Jan! Ich war letzten Samstag auf der Geburtstagsparty von Peter. Da war es wirklich super! [bitte winke und mache ein einladendes Gesicht]
- 2) Ich habe dort viele alte Bekannte getroffen. Da ist ein Foto von mir und unseren alten Freunden. Da ist Stefan, Linda und Markus. [zeige das Foto und zeige jeweils auf Stefan, Linda und Markus]
- 3) Nach dem Essen kam noch eine Band auf die Party und hat Musik gemacht. Ich glaube, die Gäste fanden das richtig gut. Die Stimmung war ziemlich ausgelassen. Da ist ein Foto. [zeige ein Bild auf dem viele Leute vor einer Band tanzen]
- 4) Erinnerst Du Dich noch an Julia aus der Schulzeit? Wie haben zusammen im Garten getanzt und sie hat mir sogar ein Break-Dance Move gezeigt. Schau mal! [zeige das Bild von Julia und mache eine Tanzbewegung]
- 5) Um Mitternacht haben wir uns dann alle um einen großen Kuchen versammelt, um Happy-Birthday zu singen. Den Kuchen hat Peters Mutter gemacht, der war fantastisch. [zeige ein Bild vom Kuchen.]

- 6) Vor dem Kuchenessen haben wir dann alle Peter seine Geschenke gegeben. Er hat ein Drumset gemeinsam von seinen Eltern und seinen Freunden bekommen. Hier ist das Foto. [zeige ein Bild vom Schlagzeug]
- 7) Einige alte Freunde und ich haben uns über die gute alte Zeit an der Schule gesprochen und uns lustige Geschichten von damals erzählt. Wir haben ziemlich viel gelacht. [Lächeln und lachen]
- 8) Als Peters Bruder ins Bett musste, haben wir ein Kinderlied gesungen, damit er einschläft. [singe ein Kinderlied]
- 9) Peters Eltern haben mir noch Genaueres von ihrer Reise nach Asien erzählt und mir gezeigt, wie man mit Stäbchen isst! So ungefähr. [zeige die Stäbchen]
- 10) Ich hoffe, wir können uns noch in dieser Woche mal treffen und etwas länger reden. Mach es gut, Tschüss! [winke zum Abschied und zeige ein natürliches Lächeln]

Appendix II

Exemplary questions and answers to the scenarios from Appendix I

(This appendix does not form an integral part of this Recommendation.)

Questions are separated in those concerning information from the audio (A), video (V) or both channels (AV). These should be mixed for the AV condition. The order of the answers should be randomized. Correct answers are bold. Subject making errors frequently should be excluded from analysis. Gender of the speaker has to be adjusted. If two subsequent sentences are presented a one stimulus, the short answers can be extended up to whole sentences.

Scenario 1: Scheduling medical treatment

1.1A Why does the patient call?

- a) he wants to speak to an employee
- b) he misdialled
- c) **he wants to get an appointment for a treatment**
- d) he needs a prescription
- e) he wants a vaccination

1.2AV What medical condition does he have?

- a) toothache
- b) **backache**
- c) twisted ankle
- d) he complains about the treatment
- e) gnawing headache

1.3V Which body part does the patient show?

- a) **back**
- b) shoulder
- c) wrist
- d) elbow
- e) neck

2.1A What does the patient want to do with respect to the treatment?

- a) **start it**
- b) pay for it
- c) stop it
- d) interrupt it
- e) change it

2.2A How long should the treatment be?

- a) 1 week
- b) 1 year
- c) **6 weeks**
- d) 2 weeks
- e) 5 days

2.3A What kind of treatment is she supposed to get?

- a) pills
- b) radiation**
- c) infusions

2.4V Which date is shown on the calendar? (correct answer depends of material preparation)

- a) Monday, 15th
- b) Tuesday, 16th
- c) Wednesday, 17th
- d) Thursday, 18th
- e) Friday, 19th

3.1AV Which days does the patient prefer?

- a) Wednesdays only
- b) work days
- c) Tuesdays and Thursdays**
- d) 13th and 14th of February
- e) weekends

3.2A When can he not manage to come?

- a) weekends
- b) mornings**
- c) next week
- d) on foul weather
- e) in the evening

3.3V Which days are already marked in the calendar?

- a) Monday and Tuesday
- b) Tuesday and Thursday
- c) Thursday and Saturday
- d) Wednesday**

4.1A Why does he not want to come on Wednesdays?

- a) appointment with a dentist
- b) soccer training
- c) language course**
- d) taking care of his grandmother
- e) working as newspaper carrier

4.2A What else is important?

- a) short duration of treatment
- b) an electronic bill
- c) regular appointments**
- d) a short avenue

5.1A What else does he request?

- a) a bid
- b) an opinion on gymnastic exercises**
- c) sports medical examination
- d) admission to a hospital
- e) attestation to be incapable of work

5.2A What does he wants to be informed about?

- a) additional exercises**
- b) additional acupuncture
- c) taking a cure
- d) new surgery method
- e) new laser treatment

5.3V Which movement does he make?

- a) arm turn
- b) neck turn
- c) pelvis turn
- d) back turn**

6.1A Gymnastic exercises are ... ?

- a) under tutelage of a physiotherapist**
- b) conducted in a group
- c) explained by the doctor
- d) for free
- e) in the neighbourhood

6.2A What does he expects from the exercises?

- a) get to know like-minded patients
- b) allaying of pain
- c) good complement to the treatment**
- d) rapid improved performance
- e) an amusing evening

6.3V Which movement does he make?

- a) arm turn
- b) squat
- c) pelvis turn
- d) back turn**

7.1A The patent is concerned about ...?

- a) potential close-down of the doctor's practice
- b) the treatment being fully paid by insurance**
- c) savings for the family insurances
- d) the meaningfulness of his treatment

e) increase of medication prices

8.1A Which costs is the insurance supposed to borne?

a) **complete costs**

b) just necessary medicine

c) lease costs for the practice

d) parking fee during treatment

e) travel expenses

8.2A Who is to bear the expenses?

a) occupation cooperative

b) **health insurance**

c) insurance for accident costs

d) employer

e) his wife

8.3v What does he show to the camera?

a) **newspaper**

b) magazine

c) catalogue

d) straps

e) crutches

9.1A What does he want to arrange?

a) appointment with a psychotherapist

b) discussion about cost sharing

c) **appointment with a dentist**

d) attendance at a scientific conference

e) appointment for a heating repair

9.2A Who is Dr Kollwitz?

a) **partner in the group practice**

b) wife of the doctor

c) wife of the patient

d) another patient

e) sister of the patient

10.1A Why does he want an appointment later?

a) fear of visiting a dentist

b) missing the appropriate funds currently

c) **he is very busy currently**

d) dentist does not have appointments on short notice

e) he has to contact his insurance company first

10.2A Why does he want to visit the dentist apparently?

- a) root canal therapy
- b) routine checkup**
- c) refund of costs
- d) complaint about wrong diagnosis
- e) complaint about poor quality

10.3V Which days are marked in the calendar?

- a) Monday to Wednesday**
- b) Tuesday to Thursday
- c) Wednesday to Friday

(German)

1.1A Weshalb ruft der Patient an?

- a) er möchte einen Mitarbeiter sprechen
- b) er hat sich verwählt
- c) er möchte einen Termin zur Behandlung**
- d) er braucht ein Rezept
- e) er braucht eine Impfung

1.2AV Welche Beschwerden hat die Patientin?

- a) Zahnschmerzen
- b) Rückenbeschwerden**
- c) einen verstauchten Fuß
- d) er beschwert sich über die Behandlung
- e) bohrenden Kopfschmerz

1.3V Welches Körpersteil zeigt die Patientin?

- a) Rücken**
- b) Schulter
- c) Handgelenk
- d) Ellbogen
- e) Nacken

2.1A Möchte die Patientin die Therapie ...

- a) ... beginnen?**
- b) ... bezahlen?
- c) ... beenden?
- d) ... unterbrechen?
- e) ... ändern?

2.2A Wie lange soll die Behandlung dauern?

- a) 1 Woche
- b) 1 Jahr
- c) 6 Wochen**

- d) 2 Wochen
- e) 5 Tage

2.3A Was für eine Behandlung soll sie bekommen?

- a) Tabletten
- b) Bestrahlungen**
- c) Infusionen

2.4V Welches Datum ist in dem Kalender zu sehen?

- a) Montag, der 15.
- b) Dienstag, der 16.
- c) Mittwoch, der 17.
- d) Donnerstag, der 18.
- e) Freitag, der 19.

3.1AV Welche Tage bevorzugt die Patientin?

- a) nur mittwochs
- b) werktags
- c) dienstags und donnerstags**
- d) den 13. und 14. Februar
- e) am Wochenende

3.2A Wann kann die Patientin nicht?

- a) am Wochenende
- b) vormittags**
- c) in der nächsten Woche
- d) bei schlechter Witterung
- e) am Abend

3.3V Welche Tage sind im Kalender markiert?

- a) Montag und Dienstag
- b) Dienstag und Donnerstag
- c) Donnerstag und Samstag
- d) Mittwoch**

4.1A Warum kann der Anrufer mittwochs nicht?

- a) Termin beim Zahnarzt
- b) Fußballtraining
- c) Sprachkurs**
- d) Betreuung der Großmutter
- e) Arbeit als Zeitungsaussträger

4.2A Was ist ihm noch wichtig?

- a) eine kurze Behandlungsdauer
- b) eine elektronische Rechnung
- c) regelmäßige Termine**

d) eine kurze Anreise

5.1A Was möchte die Patientin außerdem vom Arzt?

- a) einen Kostenvoranschlag
- b) seine Meinung zu zusätzlicher Gymnastik**
- c) ein sportmedizinisches Gutachten
- d) eine Einweisung ins Krankenhaus
- e) eine Arbeitsunfähigkeitsbescheinigung

5.2A Über welchen Nutzen will sich der Anrufer informieren?

- a) von zusätzlicher Gymnastik**
- b) von zusätzlicher Akupunktur
- c) eines Kuraufenthalts
- d) einer neuen Operationsmethode
- e) einer Laserbehandlung

5.3V Welche Bewegung macht die Patientin?

- a) Armdrehung
- b) Nackendrehung
- c) Beckendrehung
- d) Rückendrehung**

6.1A Wie sollen die Gymnastikkurse sein?

- a) mit Anleitung durch eine Krankengymnastin**
- b) Übung in einer größeren Gruppe
- c) Einweisung vom Arzt selbst
- d) kostenfrei
- e) nahe seines Wohnortes

6.2A Was erhofft sich die Patientin von den Kursen?

- a) gleichgesinnte Patienten kennenzulernen
- b) Schmerzminderung
- c) gute Ergänzung der Behandlung**
- d) kurzfristige Leistungssteigerung
- e) einen unterhaltsamen Abend

6.3V Welche Bewegung macht die Patientin?

- a) Armdrehung
- b) Kniebeuge
- c) Beckendrehung
- d) Rückendrehung**

7.1A Worüber ist die Patientin verunsichert?

- a) mögliche Schließung der Arztpraxis
- b) mögliche Erhöhung der Eigenbeteiligung**
- c) Einsparungen bei der Familienversicherung

- d) ob seine Behandlung überhaupt sinnvoll ist
- e) Erhöhung der Arzneimittelpreise

8.1A Welche Kosten soll die Krankenkasse übernehmen?

- a) **kompletten Behandlungskosten**
- b) nur notwendige Medikamente
- c) Mietkosten der Arztpraxis
- d) Parkgebühren während der Behandlungszeiten
- e) Fahrtkosten zur Behandlung

8.2A Wer soll die Kosten der Behandlung übernehmen?

- a) die Berufsgenossenschaft
- b) **die Krankenkasse**
- c) die Unfallkasse
- d) der Arbeitgeber
- e) seine Frau

8.3v Was zeigt die Patient vor der Kamera?

- a) **Zeitung**
- b) Magazine
- c) Broschüre
- d) Bänder
- e) Krücken

9.1A Was möchte die Patientin vereinbaren?

- a) Termin mit dem Psychotherapeuten
- b) Gespräch wegen der Kostenbeteiligung
- c) **Termin mit der Zahnärztin**
- d) Teilnahme an einem wissenschaftlichen Kongress
- e) Termin zur Heizungsreparatur

9.2A Wer ist Frau Dr. Kollwitz?

- a) **Praxispartnerin des Arztes**
- b) Ehefrau des Arztes
- c) Ehefrau des Patienten
- d) Patientin
- e) Schwester des Patienten

10.1A Warum wünscht die Patientin einen späteren Termin?

- a) Angst vor dem Zahnarztbesuch
- b) im Moment fehlen die finanziellen Mittel
- c) **sie ist sehr beschäftigt**
- d) Zahnärztin vergibt keine kurzfristigen Termine
- e) sie muss erst bei der Krankenkasse anfragen

10.2A Warum will sie anscheinend zum Zahnarzt?

- a) Wurzelbehandlung
- b) Routineuntersuchung**
- c) Kostenrückerstattung
- d) Beschwerde über eine falsche Diagnose
- e) Beschwerde über mangelhafte Leistungen

10.3V Welche Tage sind in dem Kalender markiert?

- a) Montag bis Mittwoch**
- b) Dienstag bis Donnerstag
- c) Mittwoch bis Freitag

Scenario 2: Car Rental

1.1A What does the customer need?

- a) a car**
- b) information
- c) a lift
- d) tickets for the opera
- e) an electrician

1.2A The customer wants to ...

- a) sell a car
- b) buy a car
- c) rent a car**
- d) repair a car
- e) return a car

1.3V What is the name of the magazine?

- a) Autonet**
- b) Automobile Mag
- c) Cars
- d) Automobile News
- e) Cars Week

2.1AV What does the customer need?

- a) sweets
- b) a bigger estate car**
- c) a camper
- d) a motorcycle
- e) a cabriolet

2.2AV What alternative type of car would be OK?

- a) small bus
- b) small van**
- c) compact car

- d) large limousine
- e) pickup

2.3V What colour was the car?

- a) grey
- b) black**
- c) green
- d) red
- e) white

3.1AV On which day does she need it?

- a) yesterday
- b) next Sunday
- c) Wednesday**
- d) today
- e) Saturday

3.2AV When does she want to rent it?

- a) in the morning
- b) 8.30 p.m.**
- c) in the morning or in the evening
- d) at noon
- e) in the morning or at midday

4.1AV On what other day could she take the car?

- a) Weekend**
- b) Wednesday
- c) Tuesday
- d) Thursday
- e) Friday

4.2A In what case could she even agree with the weekend?

- a) traffic jam
- b) special rate**
- c) bad weather
- d) complementary insurance
- e) never

4.3AV Which days are marked in the calendar? (depends on the calendar)

- a) Monday and Tuesday
- b) Monday and Wednesday
- c) Tuesday and Thursday
- d) Tuesday and Friday
- e) None

5.1A What is important to the caller?

- a) price
- b) insurance**
- c) driving comfort
- d) colour
- e) year of construction

5.2A What else does she want to rent?

- a) elevating truck
- b) carrying strap
- c) trolley**
- d) tail pulley
- e) belt

6.1A What kind of packaging material does she want?

- a) packaging foil
- b) boxes
- c) blankets**
- d) paper
- e) foam material

6.2A How much mileage allowance does she want?

- a) 10 km
- b) 100 km
- c) 500 km**
- d) 5000 km
- e) 50 km

7.1AV What does the customer show?

- a) customer number
- b) credit card**
- c) membership number for automobile association
- d) telephone number
- e) address

7.2AV What paying facility does she choose?

- a) cash on delivery
- b) credit card**
- c) advanced payment

7.3V Which card was used?

- a) Maestro
- b) Visa**
- c) Master Card
- d) Cirrus

e) American Express

8.1A What car did she rent last time?

a) BMW

b) GOLF

c) FORD

d) POLO

e) PORSCHE

8.2AV When did she rent a car last time?

a) never

b) last summer

c) beginning of the month

d) last week

e) 1999

8.3V Which day is marked in the calendar? (depends of the calendar)

a) Monday

b) Tuesday

c) Wednesday

d) Thursday

e) Friday

9.1AV When does she want to be billed?

a) not at all, because of debit payment

b) Friday

c) the next morning

d) directly when returning the car

e) in the next afternoon

9.2A In which condition was the car returned last time?

a) washed

b) fully fuelled

c) without the boxes

d) damaged

e) too late

9.3V Which day is marked? (depends of the calendar)

a) Monday

b) Tuesday

c) Wednesday

d) Thursday

e) Friday

10.1A When will she return the car?

- a) **at the evening**
- b) in the morning
- c) never
- d) midday
- e) the next day

10.2A Where does she return the car to?

- a) petrol station
- b) home
- c) **car park**
- d) basement garage
- e) companies entrance

10.3V What does she show?

- a) **a card**
- b) a bill
- c) car keys
- d) a calendar
- e) a credit card

(German)

1.1A Was möchte der Kunde?

- a) **einen Wagen**
- b) eine Auskunft
- c) eine Mitfahrgelegenheit
- d) Opernkarten
- e) einen Elektriker

1.2A Der Kunde will einen Wagen ...

- a) ... verkaufen
- b) ... kaufen
- c) **... reservieren**
- d) ... reparieren lassen
- e) ... zurückgeben

1.3V Wie heißt die Zeitschrift Magazin?

- a) **... Autonet**
- b) ... Automobil mag
- c) ... Autobild
- d) ... Autoexpress
- e) ... Autoweek

2.1AV Was braucht der Kunde?

- a) Gummibärchen
- b) größeren Kombi**
- c) Campingwagen
- d) Motorrad
- e) Cabrio

2.2AV Welche Fahrzeuggröße benötigt er mindestens?

- a) kleinerer Bus
- b) größerer Kombi**
- c) Kompaktwagen
- d) größere Limousine
- e) Pritschenwagen

2.3V Was ist die Autofarbe?

- a) grau
- b) schwarz**
- c) grün
- d) rot
- e) weiß

3.1AV An welchem Tag möchte er vorbeikommen?

- a) am vorhergehenden Tag
- b) nächsten Sonntag
- c) kommenden Mittwoch / Mittwoch**
- d) heute
- e) Samstag

3.2AV Wann würde er den Wagen abholen?

- a) früh morgens
- b) 20:00h**
- c) morgens oder abends
- d) 12 h
- e) morgens oder mittags

4.1AV An welchen alternativen Termin könnte der Wagen auch abgeholt werden?

- a) Wochenende**
- b) Mittwoch
- c) Dienstag
- d) Donnerstag
- e) Freitag

4.2A In welchem Fällen könnte er den Wagen sogar am Wochenende abholen?

- a) bei Stau
- b) bei einem Spezialtarif**
- c) bei schlechtem Wetter
- d) bei einer Zusatzversicherung
- e) nie

4.3AV Welche Tage sind am Kalender markiert?

- a) Montag und Dienstag
- b) Montag und Mittwoch
- c) Dienstag und Donnerstag
- d) Dienstag und Freitag
- e) Keiner

5.1A Was ist wichtig für den Kunden?

- a) Preis
- b) Versicherung**
- c) Fahrkomfort
- d) Farbe
- e) Baujahr

5.2A Was soll zusätzlich gemietet werden?

- a) Hubwagen
- b) Tragegurt
- c) Rollwagen**
- d) Flaschenzug
- e) Befestigungsgurte

6.1A Was für Verpackungsmaterial benötigt der Kunde?

- a) Verpackungsfolie
- b) Kartons
- c) Decken**
- d) Papier
- e) Schaumstoff

6.2A Wie hoch soll die Kilometerpauschale mindestens sein?

- a) 10 km
- b) 100 km
- c) 500 km**
- d) 5000 km
- e) 50 km

7.1AV Was zeigt der Kunde vor?

- a) Kundennummer
- b) Kreditkarte**
- c) ADAC Mitgliedsnummer
- d) Telefonnummer
- e) Adresse

7.2AV Wie möchte der Kunde bezahlen?

- a) Nachnahme
- b) Kreditkarte**
- c) Vorkasse

7.3V Welche Karte würde verwendet?

- a) Maestro
- b) Visa**
- c) Mastercard
- d) Cirrus
- e) American Express

8.1A Was hat der Kunden schon gemietet?

- a) BMW
- b) GOLF**
- c) FORD
- d) POLO
- e) PORSCHE

8.2AV Wann hatte er das letzte mal einen Wagen gemietet?

- a) noch nie
- b) letzten Sommer
- c) Anfang des Monats**
- d) letzte Woche
- e) 1999

8.3V Welcher Tag ist am Kalender angemerkt?

- a) Montag
- b) Dienstag
- c) Mittwoch
- d) Donnerstag
- e) Freitag

9.1AV Wann kommt er zur Abrechnung?

- a) gar nicht, wegen Lastschriftinzug
- b) am Freitag
- c) am darauffolgenden Morgen**
- d) gleich bei der Abgabe des Fahrzeuges

e) am darauffolgenden Nachmittag

9.2A Wie hat er den Wagen beim letzten Mal zurückgegeben?

a) gewaschen

b) vollgetankt

c) ohne Umzugskisten

d) beschädigt

e) zu spät

9.3V Welcher Tag ist am Kalender markiert?

a) Montag

b) Dienstag

c) Mittwoch

d) Donnerstag

e) Freitag

10.1A Wann kommt den Kunden zurück?

a) am Abend

b) am Morgen

c) nie

d) am Mittag

e) noch einen Tag später

10.2A Wohin fährt er den Wagen bei der Rückgabe?

a) Tankstelle

b) nach Hause

c) Firmenparkplatz

d) Tiefgarage

e) Firmeneinfahrt

10.3V Was zeigt der Kunde vor der Kamera?

a) Eine Karte

b) Eine Rechnung

c) Die Autoschlüssel

d) Ein Kalender

e) Eine Kreditkarte

Scenario 3: Kitchen purchase order

1.1A Why does the customer call?

a) He misdialled

b) wants to rent a car

c) wants to order a kitchen

d) wants to order a taxi

e) order opera tickets

1.2A What does he ask for?

- a) **to speak Mrs Müller**
- b) to speak the boss
- c) to get a discount
- d) to obtain a telephone number
- e) to speaker Mr Braun

1.3V What does the customer show?

- a) his business card
- b) a novel
- c) **a catalogue with a kitchen**
- d) a microphone
- e) a mobile phone

2.1A What is Mrs Müller's business?

- a) sales advisory service of consumer electronics
- b) **sales advisory service in the salesroom**
- c) sales of car insurances
- d) warehousing
- e) training

2.2A What did both agreed upon?

- a) Mrs Müller will contact him
- b) He will wait for a call
- d) He will contact her not before Thursday
- d) **He will call her until Wednesday**
- e) He will pass by

3.1AV On which colour did he decide?

- a) white
- b) red
- c) **light grey**
- d) green
- e) blue

3.2A Why did he not choose white?

- a) stains are easily visible
- b) it does not fit with the cooker
- c) out of stock
- d) difficult to maintain
- e) **appears too cold**

3.3A How fast did he decide against white?

- a) **after giving a thought**
- b) immediately

c) very fast

4.1AV Which door knobs does he like best?

a) round shape

b) none

c) shape of pyramid

d) conus shape

e) lozenge shape

4.2A What does he not like with the round shape?

a) too ugly

b) edges too sharp

c) too small

d) too big

e) the colour

4.3AV Which colour were the door knobs?

a) grey

b) black

c) gold

d) wood like

e) white

5.1AV What is chosen to be small in favour of the dishwasher?

a) the wall cupboard

b) the fridge

c) the rubbish bin

d) the sink

e) the cooker

5.2A Why did he decide on a single sink?

a) to save space

b) to save money

c) because he only needs one

d) to save time

e) he was told to

5.3V How many sinks are shown?

a) one

b) zero

c) two

6.1A What does he ask about the dishwasher?

a) if it is on offer

b) if it provides aqua-stop

c) if it is also available in grey

6.2A What does the washer have to provide?

- a) sound absorber
- b) special washing programs
- c) transportable weights
- d) high usability
- e) **aqua-stop**

6.3A If the model does not meet the requirements ...

b) he orders the next bigger model

- a) he rather takes none at all
- c) he wants to complain about it
- d) he will return it
- e) he wants a special offer

7.1A Which cooker did he choose?

- a) the largest
- b) AEG
- c) **none so far**
- d) MIELE
- e) BAUKNECHT

7.2AV What kind of top does he want for his cooker?

- a) **glass-ceramic**
- b) a gas-stove
- c) steel
- d) cast iron
- e) enamel

7.3V How much does the cooker cost? (depends on the catalogue)

- a) 2999
- b) 299
- c) 499
- d) **1999**
- e) 699

8.A What else should the cooker provide?

- a) ceramic top
- b) fridge
- c) sink
- d) freezer
- e) **sensor-circuitry**

9.A How big is the table supposed to be?

- a) 100 x 100
- b) **100 x 160**

d) 60 x 60

10.1A How much should the table be extendable?

- a) only in its height
- b) 200 cm
- c) **150 cm**
- d) 80 cm

(German)

1.1A Aus welchem Grund ruft der Kunde an?

- a) erwählt
- b) er möchte ein Auto bestellen
- c) **er möchte eine Küche bestellen**
- d) bestellen eines Taxis
- e) bestellen von Kinokarten

1.2A Wonach fragt der Kunde?

- a) **nach Frau Müller**
- b) nach dem Chef
- c) nach einem Rabatt
- d) nach einer Telefonnummer
- e) nach Herrn Braun

1.3V Was zeigt der Kunde?

- a) eine Visitenkarte
- b) einen Roman
- c) **eine Broschüre einer Küche**
- d) ein Mikrofon
- e) ein Handy

2.1A Was macht Frau Müller?

- a) Beratung für Unterhaltungselektronik
- b) **Beratung in den Verkaufsräumen**
- c) Beratung für Autoversicherungen
- d) Lagerhaltung
- e) Fortbildungen

2.2A Was hatte der Kunde vereinbart?

- a) Frau Müller meldet sich bei ihm
- b) er wartet auf einen Anruf
- d) er meldet sich ab Donnerstag
- d) **er meldet sich bis Mittwoch**
- e) er kommt vorbei

3.1AV Für welche Farbe hat sich der Kunde entschieden?

- a) weiß
- b) rot
- c) **hellgrau**
- d) grün
- e) blau

3.2A Warum wurde nicht "weiß" gewählt?

- a) man sieht Flecken so schnell
- b) passt nicht zum Herd
- c) nicht vorrätig
- d) schlecht zu pflegen
- e) **wirkt zu kalt**

3.3A Wie schnell hat sie sich gegen "weiß" entschieden?

- a) **nach längerer Überlegung**
- b) sofort
- c) sehr schnell

4.1AV Welche Türknäufe mag er am liebsten?

- a) runde Form
- b) gar keine
- c) Pyramidenform
- d) Kegelform
- e) **Rautenform**

4.2A Was missfällt ihm an den runden Türknäufen?

- a) zu hässlich
- b) zu scharfkantig
- c) **zu klein**
- d) zu groß
- e) die Farbe

4.3AV Welche Farbe haben die Türknäufe?

- a) **grau**
- b) schwarz
- c) gold
- d) holzfarben
- e) weiß

5.1AV Was soll für die Spülmaschine kleiner werden?

- a) der Hängeschrank
- b) der Kühlschrank
- c) der Müllcontainer
- d) **das Spülbecken**

e) der Herd

5.2A Warum will der Kunde nur ein Becken bestellen?

- a) **um Platz zu sparen**
- b) um Geld zu sparen
- c) weil er nichts anderes braucht
- d) um Zeit zu sparen
- e) weil es ihm empfohlen wurde

5.3V Wie viel Becken werden gezeigt?

- a) 1
- b) 0
- c) **2**

6.1A Was fragt der Kunde zu der Spülmaschine?

- a) ob sie angeboten wird
- b) ob Aqua-stop verfügbar ist
- c) ob es sie in hellgrau gibt

6.2A Über was soll die Maschine verfügen?

- a) Geräushdämpfer
- b) spezielle Waschprogramme
- c) herausnehmbare Gewichte
- d) einfache Bedienung
- e) **Auqa-Stop**

6.3A Wenn die Maschine nicht ihren Wünschen entspricht ...

- b) **... nimmt er die nächst größere**
- a) ... nimmt sie lieber keine
- c) ... will sie sich beschweren
- d) ... gibt es sie zurück
- e) ... will sie einen Rabatt

7.1A Welchen Herd hat er sich ausgesucht?

- a) den Größten
- b) AEG
- c) **noch keinen**
- d) MIELE
- e) BAUKNECHT

7.2AV Was für ein Kochfeld soll der Herd haben?

- a) **Glaskeramik**
- b) Gas
- c) Edelstahl
- d) Gusseisen
- e) Emaille

7.3V Wie viel kostet das Kochfeld?

- a) 2999
- b) 299
- c) 499
- d) 1999**
- e) 699

8.A Was soll integriert sein?

- a) Kochfeld
- b) Kühlschrank
- c) Becken
- d) Tiefkühlschrank
- e) Sensorsteuerung**

9.A Wie groß soll die Mikrowelle sein?

- a) 100 x 100**
- b) 100 x 160
- d) 60 x 60

10.1A Auf welche Länge will er den Tisch vergrößern?

- a) er soll nur in der Höhe verstellbar sein
- b) 100 cm
- c) 150 cm**
- d) 80 cm

Scenario 4: Bithday party

1.1A Who is celebrating his birthday?

- a) Peter**
- b) Jan
- c) Jens
- d) Niklas

1.2A The birthday party was ...

- b) last Monday
- c) last Thursday
- a) last Saturday**
- d) last Wednesday

1.3V What is the caller doing with her hands?

- a) waving**
- b) folding
- c) grabbing

2.1A Who does she met there?

- b) Peter's friends
- a) old friends**

- c) her professor
- d) Jan's girl-friend

2.2A What are the names of the people from the photo?

- b) Stefan, Linda and Peter
- c) Stefan, Jens and Markus
- a) Stefan, Linda and Markus**

2.3AV What does she present to the camera?

- b) a photo of Peter
- c) a photo of her parents
- a) a photo of an old friend**
- d) a photo of her at the party

3.1AV What happened after the meal?

- a) a small concert**
- b) a theatre play
- c) a dance show

3.2A How was the atmosphere?

- b) tensed situation
- a) spirits were running high**
- c) everyone felt giddy
- d) sad

4.1A Whom did she meet there?

- a) Julia from school**
- b) her brother
- c) her kindergarten teacher
- d) Peter's father

4.2V What is Julia doing according to the photo?

- b) she is reading
- c) she is eating
- d) she sleeps
- a) she is dancing**

4.3V What kind of movement is she doing?

- a) a break-dance move**
- b) a gymnastics exercise
- c) she turns over

5.1A Who baked the cake?

- a) Jens
- b) Peter
- c) Peter's mother**
- d) Julia

5.2A The guest gathered at midnight in order to ...

- b) go out dancing
- c) hand over the presents
- d) bake a cake
- a) sing happy birthday**

5.3V Which colour was the cake?

- a) white and red**
- b) green
- c) brown
- d) white

6.1AV What was Peter's birthday present?

- b) a guitar
- c) a piano
- d) a violin
- a) a drum set**

6.2A When did Peter receive his present?

- a) before eating the cake**
- b) after eating the cake
- c) at dawn
- d) the next day

7.1A What did Peter and his friends laughed about?

- b) Peter's jokes
- c) the party
- a) the past**
- d) at Peter's brother

8.1A Which song did she sing?

- b) a drinking song
- a) a children's song**
- c) a national anthem
- d) a birthday song

8.2A Why did she sing?

- b) for Peter's birthday
- c) without any reason
- d) to accompany the band
- a) Peter's brother had to go to sleep**

9.1A What did she learn?

- a) eating with chopsticks**
- b) a dance move
- c) a fight move

d) baking a cake

9.2AV What was she playing with?

b) a pen

a) Chinese chopsticks

c) a spoon

d) her mobile phone

9.3A Who taught her to use chopsticks?

a) Peter's parents

b) Peter

c) Peter's brother

d) Lina

10.1A About Jan, she want to ...

b) play soccer together

c) have dinner

a) meet each other

d) discuss issues

10.2V What is she doing at the end?

a) waving

b) juggling

c) clapping

(German)

1.1A Wer feiert seinen Geburtstag?

a) Peter

b) Jan

c) Jens

d) Niklas

1.B Die Geburtstagfeier war...

b) letzten Montag

c) letzten Donnerstag

a) letzten Samstag

d) letzten Mittwoch

1.3B Was macht sie mit ihren Händen vor der Kamera?

a) winken

b) falten

c) greifen

2.1A Wen hat sie bei der Party getroffen?

b) Peters Freunde

a) alte Bekannte

c) ihren Professor

d) Jans Freundin

2.2A Wie heißen die Leute, die auf dem Foto sind?

b) Stefan, Linda und Peter

c) Stefan, Jens und Markus

a) **Stefan, Linda und Markus**

2.3AV Was zeigt sie vor der Kamera?

b) ein Foto von Peter

c) ein Foto von seinen Eltern

a) **ein Foto von alten Freunden**

d) ein Foto von ihr bei der Party

3.1AV Welche Veranstaltung findet nach dem Essen statt?

a) **ein kleines Konzert**

b) ein Theaterstück

c) eine Tanzshow

3.2A Wie war die Stimmung?

b) gespannt

a) **ausgelassen**

c) euphorisch

d) traurig

4.1A Wen hat sie bei der Party plötzlich getroffen?

a) **ihre alte Schulfreundin Julia**

b) ihren Bruder

c) ihren Kindergartenlehrer

d) Peters Vater

4.2V Was macht Julia auf dem Foto?

b) sie liest

c) sie isst

d) sie schläft

a) **sie tanzt**

4.3V Was macht sie für eine Bewegung?

a) **ein Breakdance-Bewegung**

b) eine Gymnastik-Bewegung

c) sie dreht sich um

5.1A Wer hat den Kuchen gebacken?

a) Jens

b) Peter

c) **Peters Mutter**

d) Julia

5.2A Die Gäste treffen sich gegen Mitternacht um ...

- b) ... tanzen zu gehen
- c) ... Geschenke zu verschenken
- d) ... einen Kuchen zu backen
- a) ... **Happy Birthday zu singen**

5.3V Welche Farbe hat der Kuchen?

- a) **weiß und rot**
- b) grün
- c) braun
- d) weiß

6.1AV Was bekommt Peter als Geburtstagsgeschenk?

- b) eine Gitarre
- c) ein Klavier
- d) eine Geige
- a) **ein Schlagzeug**

6.2A Wann hat Peter sein Geburtstagsgeschenk bekommen?

- a) **vor dem Kuchen**
- b) nach dem Kuchen
- c) am Ende der Nacht
- d) am folgenden Tag

7.1A Worüber haben sie und ihre Freunde gelacht?

- b) Peters Witze
- c) die Party
- a) **die Vergangenheit**
- d) Peters Bruder

8.1A Welches Lied hat sie gesungen?

- b) ein Trinklied
- a) **ein Kinderlied**
- c) die Nationalhymne
- d) ein Geburtstagslied

8.2A Warum hat sie gesungen?

- b) um Peter ein Geburtstagslied zu singen
- c) ohne Grund
- d) um bei der Band mitzusingen
- a) **Peters Bruder musste ins Bett gehen**

9.1A Was hat sie gelernt?

- a) **essen mit Essstäbchen**
- b) eine Tanzbewegung
- c) eine Kampfbewegung

d) einen Kuchen zu backen

9.2AV Mit welchem Objekt spielt sie?

b) Einem Stift

a) Chinesischen Essstäbchen

c) einer Gabel

d) seinem Handy

9.3A Wer hat ihr beigebracht, mit Essstäbchen zu essen?

a) Peters Eltern

b) Peter

c) Peters Bruder

d) Lina

10.2A Mit Jan wünscht sie sich ...

b) zusammen Fußball zu spielen

c) zusammen essen zu gehen

a) sich bald wiedersehen

d) wichtige Dinge zu diskutieren

10.3V Was macht sie zum Abschluss?

a) winken

b) jonglieren

c) klatschen

Appendix III

(This appendix does not form an integral part of this Recommendation.)

The purpose of this appendix is to show examples on how to build test material profiles for time-varying transmission conditions. For building up prediction models, extreme profiles are interesting to find psychophysical effects. For applied goals, profiles can be adjusted to the apparent network conditions, which may be less extreme. The same profiles can be used on audio and video data, but stimuli can also be created applying separate profiles for both channels.

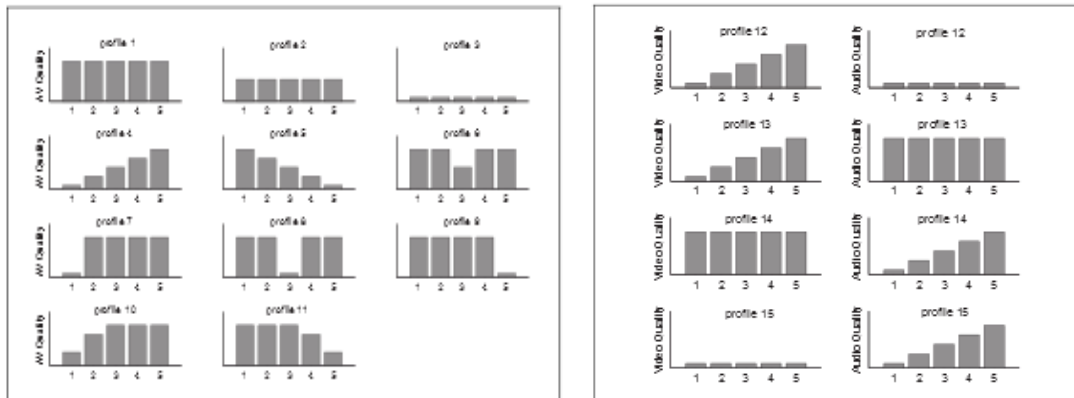


Figure III.1 – Schematic illustration of the profiles used in [b-Belmudez et al., 2013]

Bibliography

- [b-ETSI TR 102 506] ETSI TR 102 506 (2011), *Speech Processing, Transmission and Quality Aspects (STQ); "Estimating Speech Quality per Call"*, European Telecommunications Standards Institute, Sophia Antipolis.
- [b-Belmudez et al., 2013] Belmudez, B., Lewcio, B., Möller, S. (2013), *Call Quality Prediction for Audiovisual Time-Varying Impairments Using Simulated Conversational Structures*, submitted to *Acta Acustica united with Acustica* 99(5), 792-805.

SERIES OF ITU-T RECOMMENDATIONS

Series A	Organization of the work of ITU-T
Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
Series G	Transmission systems and media, digital systems and networks
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Cable networks and transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	Telecommunication management, including TMN and network maintenance
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Terminals and subjective and objective assessment methods
Series Q	Switching and signalling
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks, open system communications and security
Series Y	Global information infrastructure, Internet protocol aspects and next-generation networks
Series Z	Languages and general software aspects for telecommunication systems