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**Compliance procedure and requirements for
audio-based indoor and outdoor network
navigation system for persons with vision
impairment**

ITU-T

Summary

The purpose of conformance testing is to increase the probability that implementations of audio-based network navigation systems are accessible for persons with vision impairments. Conformance testing in this document explains test specifications regarding accessible audio-based network navigation systems specified in Recommendation ITU-T F.921. The test involves testing both the capabilities and behaviour of an implementation and checking what is observed against the conformance requirements in the Recommendation.

Keywords

Network navigation; persons with visual impairment; accessibility.

Change Log

This document contains Version 1 of the ITU-T Technical Paper on "*Compliance Procedure and Requirements for Audio-Based Indoor and Outdoor Network Navigation System for Persons with Vision Impairment*" approved at the ITU-T Study Group 16 meeting held in Ljubljana, 9-20 July 2018.

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Technical Paper ITU-T FSTP-CONF-F921

Compliance procedure and requirements for audio-based indoor and outdoor network navigation system for persons with vision impairment

1 Scope

The scope of this work is to develop a questionnaire/protocol which will include critical measures and indicators that will allow the installers of audio based navigation systems to assess whether or not they are in compliance with Recommendation ITU-T F.921 "Audio-based network navigation system for persons with vision impairment" [ITU-T F.921].

This document specifies a set of attributes and procedures designed to indicate whether an audio-based network navigation system meets the requirements in [ITU-T F.921].

2 References

- [ITU-T F.791] ITU-T F.791 (2018), *Accessibility terms and definitions*.
<https://www.itu.int/rec/T-REC-F.791>
- [ITU-T F.921] ITU-T F.921 (2017), *Audio-based network navigation system for persons with vision impairment*.
<https://www.itu.int/rec/T-REC-F.921>
- [ISO 23599:2012] ISO 23599:2012, *Assistive products for blind and vision-impaired persons – Tactile walking surface indicators*.
<https://www.iso.org/standard/55867.html>
- [ISO/TR 16982:2002] ISO/TR 16982:2002, *Ergonomics of human-system interaction – Usability methods supporting human-centred design*.
<https://www.iso.org/standard/31176.html>
- [ISO 9241-210:2010] ISO 9241-210:2010 *Ergonomics of human-system interaction – Part 210: Human-centred design for interactive systems*.
<https://www.iso.org/standard/52075.html>
- [UN CRPD] United Nations *Convention on the Rights of Persons with Disabilities*.
<https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities.html>

3 Terms and definitions

3.1 Terms defined elsewhere

This Technical Paper uses the following terms defined elsewhere:

3.1.1 accessibility [ITU-T F.791]: The degree to which a product, device, service, or environment virtual or real is available to as many people as possible.

3.1.2 disability [ITU-T F.791]: Any restriction or inability to perform a function or activity in the manner or the range considered average or accepted functionality, resulting from an impairment or reduction of ability, than can be either permanent or temporary.

3.1.3 impairment [ITU-T F.791]: Any loss or abnormality of psychological, physiological, or anatomical structure or function.

3.1.4 persons with age related disabilities [ITU-T F.791]: The aging process can cause a range of disabilities, including those associated with vision, hearing, mobility and cognition.

3.1.5 persons with disabilities [ITU-T F.791]: The correct way to refer to a person with a disability [UN CRPD].

3.1.6 persons with specific needs [ITU-T F.791]: Persons with disabilities, who are illiterate, learning disabilities, children, indigenous people, and older persons with age related disabilities, and those with a temporary disability.

3.1.7 platform accessibility features [ITU-T F.791]: Accessibility functionality provided on a hardware and/or software platform.

3.1.8 vision impairment [ITU-T F.791]: A vision loss that cannot be corrected by the use of glasses, refractive correction, medication, or surgery. The vision loss may affect visual acuity, central or peripheral visual field defects, or reduced contrast sensitivity.

3.2 Terms defined here

This Technical Paper defines the following terms:

3.2.1 audio alerts: Audio alerts designed to precede audio instructions.

3.2.2 audio instruction: Audio instructions designed to provide wayfinding instructions and directions for users of an inclusive audio-based network navigation system (IABNNS).

3.2.3 cardinal coordinates: Means of communicating general directions to a user based on points of a compass where 'North' is straight ahead.

3.2.4 clock face directions: Means of communicating general directions to a user by reference to the positions of the hours on an analogue clock with 12 o'clock being straight ahead.

3.2.5 countable delimiters: Words or phrases that use numbers to communicate directions e.g. the first (corridor).

3.2.6 decision points: Crossings or intersections of pathways, e.g., a route to a railway station ticket gate for departing passengers and the gate for arriving passengers.

3.2.7 degree directions: Means of communicating general directions to a user by reference to the degrees of a circle, with 0 degrees being straight ahead.

3.2.8 descriptive delimiters: Words or phrases that describe an object or an environmental feature to communicate directions, e.g. the lower (concourse).

3.2.9 directional delimiters: Words and phrases that usually follow a verb and communicate direction, e.g. left.

3.2.10 egocentric frame of reference: Where the spatial layout and orientation is communicated based on the individual's current location and viewpoint.

3.2.11 inclusive audio-based network navigation system: Technologies used to augment the physical environment by the provision of an audio version of that environment for users.

3.2.12 journey completed notification alert: Short identical three-note rising pitch sounds provided when the scheduled journey is complete. They are different to mobile device operating system alerts.

3.2.13 landmarks: Features in the physical environment, e.g. an isolated column.

3.2.14 notification alerts: Short identical two-note sounds provided just before audio alerts and audio instructions to notify the user of an impending audio alert or audio instruction. They are different to mobile device operating system alerts.

3.2.15 objects: Small features in the physical environment, e.g. a lift control button.

3.2.16 orthogonal: Means of communicating general directions to a user which is different to the 'degree' approach and uses directions based on 90 degree angles from a direction straight ahead.

3.2.17 pathways: Corridors, ramps, tunnels, subways, escalators, stairs or lifts (elevators), footways and road crossings.

3.2.18 platforms: A boarding facility to provide access to rail-mounted vehicles.

3.2.19 proportional directions: Means of communicating general directions to a user which is different to the 'clock face' or 'degree' approach and uses terms as 'straight', 'ahead', 'left' and 'right'.

3.2.20 segments: Distinctive areas in an environment, e.g. a railway station forecourt.

3.2.21 sequential delimiters: Words or phrases that limit the relationship of one object to communicate directions, e.g., after (the gates).

4 Abbreviations

IABNNS	Inclusive audio-based network navigation system
PWD	Persons with disabilities

5 Conventions

None.

6 Introduction

The scope of this work is to develop a questionnaire/protocol which will include critical measures and indicators that will allow the installers of audio based navigation systems to assess whether or not they are in compliance with [ITU-T F.921].

In this document, the terminology "network navigation" refers to a set of technologies for describing the physical environment with an audio version of signage and mapping. The purpose of this document is to:

1. Develop critical measures for qualitative and empirical data that if achieved will prove conformance with [ITU-T F.921];
2. Develop a questionnaire/protocol that will allow installers of audio based navigation system to assess whether or not they are achieving conformance with the measures outlined above;
3. Establish a methodology and process through which data in 2. above is collected centrally and used to modify or update the conformance criteria in line with best practice.

This document aims to describe a procedure for collecting usability and deployment data related to [ITU-T F.921] and an associated set of measurable qualitative and quantitative indicators for conformance with [ITU-T F.921]. The future recommendation will provide a useful basis for ensuring compliance with [ITU-T F.921].

6.1 Scope of testing

A system is said to exhibit conformance if it complies with the requirements of applicable specifications specified by relevant ITU Recommendations in its communications with users. [ITU-T F.921] describes specifications of audio-based network navigation system for persons with vision impairment.

6.2 Conformity requirements

To claim compliance with base specifications, an audio-based network navigation system has to accept and make use of:

- all mandatory elements/attributes specified in base specifications, including conformance ranges where applicable;
- all conditional elements/attributes for which at least one of them is mandatory, including conformance ranges where applicable;

- where recommended, at least one optional element of those available, including conformance ranges where applicable.

7 Conformance

7.1 Directions

Specifications concerning the format of provision of directions are described in clause 8 of [ITU-T F.921]. The observed test outcomes and the results of evaluations (including verdicts) shall be filled in on the corresponding checklist; see Table 7.1.

Table 7.1 provides a checklist of conformance requirements regarding the provision of directions (see clause 8 of [ITU-T F.921]). To conform to [ITU-T F.921], the approach to providing directions must include any of the following conditions: a clock face; degree; proportional; orthogonal; or allocentric approach.

Table 7-1 – Checklist concerning the format of provision of directions

Category	Implementation	Reference	Status
Approach to provision of directions	Clock face approach	8	C*1
	Degree approach	8	C*1
	Proportional approach	8	C*1
	Orthogonal approach	8	C*1
	Allocentric approach	8	C*1

NOTE – At least one approach is required.

7.2 Components of an audio instruction

Specifications concerning the components of an audio instruction are described in clauses 9.1.1 to 9.1.3 of [ITU-T F.921]. The observed test outcomes and the results of evaluations (including verdicts) shall be filled in on the corresponding checklist – see Table 7.2.

Table 7.2 provides a checklist of conformance requirements regarding the components of an audio instruction (see clauses 9.1.1 to 9.1.3 of [ITU-T F.921]). To conform to [ITU-T F.921], the components of an audio instruction must include the following: verbs; orientation information; and direction information.

Table 7-2 – Checklist concerning components of an audio instruction

Category	Implementation	Reference	Status
Components of an audio instruction	Verbs	9.1.1	M
	Orientation information	9.1.2	M
	Direction information	9.1.3	M

7.3 Specific features, landmarks and objects

Specifications concerning particular instructions and alerts to be provided at a range of decision points, landmarks and objects are described in clause 10.1 to 10.9 of [ITU-T F.921]. The observed test outcomes and the results of evaluations (including verdicts) shall be filled in on the corresponding checklist – see Table 7.3.

Table 7.3 provides a checklist of conformance requirements regarding the audio instructions for specific landmarks, features and objects (see clause 10 of [ITU-T F.921]). To conform to [ITU-T F.921], the following audio instructions need to be provided at each feature, landmark or object.

For entrances and exits, audio instructions must: utilize the most accessible entrance and exit; allow users to choose their entrance and exit; provide information about the type, size and opening configuration of doors; and provide information about the position and type of door opening furniture and operating controls.

For pathways, audio instructions must: use the most accessible pathway; allow users to choose pathway; provide information about the type and size of the pathway; and inform users of any curve in the pathway.

For decision points, audio instructions must provide: instructions at all decision points; utilize the most accessible decision points; allow users to choose their decision points; and provide information about the type, size and configuration of decision points.

For tactile walking surface indicators, audio instructions must: provide instructions for all walking surface indicators; utilize the most accessible route of walking surface indicators; and provide information about the type, size and configuration of the walking surface indicators.

For escalators, audio instructions must: enable the user to locate the escalator; describe the proximity of the escalator; describe the moving direction of the escalator; describe the number of escalators in any group; describe the moving direction of each escalator in a group; describe the location of the handrail; where appropriate state the side of the escalator where travellers stand; describe the relative width/length of the escalator; describe the next direction of the route when leaving the escalator; and proximity of an escalator given in an audio instruction 6 ± 1 meters from the escalator.

For stairs, audio instructions must: enable the user to locate the stairs; describe the proximity of the stairs; describe the direction of the stairs; describe the number of steps; describe the location of a landing within a flight of stairs; describe the location of handrails; where appropriate, state the side of the stairs the travellers use to move up and down; describe the relative width/length of the stairs; describe the next direction of the route when leaving the stairs; and proximity of a staircase given in an audio instruction 6 ± 1 meters from the first step.

For lifts, audio instructions must: enable the user to locate the lift; describe the proximity of the lift; describe the number of lifts; describe the location of call buttons outside the lift; describe the size of the lift; describe the location of call buttons inside the lift; indicate which button to operate to get to different levels; describe the next direction of the route when leaving the lift; and proximity of a lift given in an audio instruction 6 ± 1 meters from the lift.

For ticket control gates and barriers, audio instructions must: enable the user to locate the gates and barriers appropriate to the direction of travel; describe the numbers of gates and barriers; describe the size of the gates and barriers; describe the next direction of the route when leaving the gates and barriers; describe proximity of gates and barriers given in an audio instruction 6 ± 1 meters from the gate or barrier; enable users to be directed to the widest accessible gate; and enable the user to find the platform.

For platforms, audio instructions must: describe the proximity of the platform; describe the type of platform; describe the numbers of platforms; describe the size of the platform; describe the size of the gap between the platform edge and the rail-mounted vehicle; describe any difference between the length of the rail-mounted vehicle and the platform; describe the next direction of the route when leaving the platform; and describe proximity of a platform given in an audio instruction 6 ± 1 meters.

Table 7-3 – Checklist concerning audio instructions to be provided at specific landmarks, features and objects

Category	Feature, landmark or object	Implementation	Reference	Status
Specific landmarks, features and objects	Entrances and exits	Utilize the most accessible entrance and exit	10.1	M
		Allow users to choose their entrance and exit	10.1	M
		Provide information about the type, size and opening configuration of doors	10.1	M
		Provide information about the position and type of door opening furniture and operating controls	10.1	M
	Pathways	Use the most accessible pathway	10.2	M
		Allow users to choose pathway	10.2	M
		Provide information about the type and size of pathway	10.2	M
		Inform users of any curve in the pathway	10.2	M
	Decision points	Provide instructions at all decision points	10.3	M
		Utilize the most accessible decision points	10.3	M
		Allow users to choose their decision points	10.3	M
		Provide information about the type, size, and configuration of decision points	10.3	M
	Tactile walking surface indicators	Provide instructions for all walking surface indicators	10.4.2	M
		Utilize the most accessible route of walking surface indicators	10.4.2	M
		Provide information about the type, size and configuration of the walking surface indicators	10.4.2	M
	Escalators	Enable the user to locate the escalator	10.5	M
		Describe the proximity of the escalator	10.5	M
		Describe the moving direction of the escalator	10.5	M
		Describe the number of escalators in any group	10.5	M
		Describe the moving direction of each escalator in a group	10.5	M
		Describe the location of the handrail	10.5	M

Category	Feature, landmark or object	Implementation	Reference	Status
		Where appropriate, state the side of the escalator where travellers stand	10.5	M
		Describe the relative width/length of the escalator	10.5	M
		Describe the next direction of the route when leaving the escalator	10.5	M
		Proximity of an escalator given in an audio instruction 6 ± 1 m from the escalator	10.5	M
	Stairs	Enable the user to locate the stairs	10.6	M
		Describe the proximity of the stairs	10.6	M
		Describe the direction of the stairs	10.6	M
		Describe the number of steps	10.6	M
		Describe the location of a landing within a flight of stairs	10.6	M
		Describe the location of handrails	10.6	M
		Where appropriate, state the side of the stairs travellers use to move up and down	10.6	M
		Describe the relative width/length of the stairs	10.6	M
		Describe the next direction of the route when leaving the stairs	10.6	M
		Proximity of a staircase given in an audio instruction 6 ± 1 m from the first step	10.6	M
	Lifts	Enable the user to locate the lift	10.7	M
		Describe the proximity of the lift	10.7	M
		Describe the numbers of lifts	10.7	M
		Describe the location of call buttons outside the lift	10.7	M
		Describe the size of the lift	10.7	M
		Describe the location of call buttons inside the lift	10.7	M
Indicate which button to operate to get to different levels		10.7	M	
Describe the next direction of the route when leaving the lift		10.7	M	
Proximity of a lift given in an audio instruction 6 ± 1 m from the lift		10.7	M	
Ticket control gates and barriers	Enable the user to locate the gates and barriers appropriate to the direction of travel	10.8	M	

Category	Feature, landmark or object	Implementation	Reference	Status
		Describe the numbers of gates and barriers	10.8	M
		Describe the size of the gates and barriers	10.8	M
		Describe the next direction of the route when leaving the gates and barriers	10.8	M
		Describe proximity of gates and barriers given in an audio instruction 6 ± 1 m from the gate or barrier	10.8	M
		Enable users to be directed to the widest accessible gate	10.8	M
	Platforms	Enable the user to find the platform	10.9	M
		Describe the proximity of the platform	10.9	M
		Describe the type of platform	10.9	M
		Describe the numbers of platforms	10.9	M
		Describe the size of the platform	10.9	M
		Describe the size of the gap between the platform edge and the rail-mounted vehicle	10.9	M
		Describe any difference between the length of the rail-mounted vehicle and the platform	10.9	M
		Describe the next direction of the route when leaving the platform	10.9	M
		Describe proximity of a platform given in an audio instruction 6 ± 1 m from the platform	10.9	M

7.4 Railway stations

Specifications concerning particular instructions and alerts to be provided at a range of segments in railway stations are described in clause 11 of [ITU-T F.921]. The observed test outcomes and the results of evaluations (including verdicts) shall be filled in on the corresponding checklist – see Table 7.4.

Table 7.4 provides a checklist of conformance requirements regarding the specifications of audio instructions provided at segments in railway stations (see clause 11 of [ITU-T F.921]). To conform to [ITU-T F.921], audio instructions provided at segments in railway stations must: describe the start of a segment; enable the location of the segments; describe the location of the segments; describe the proximity of adjoining segments; describe the type of the segment; describe the size of the segment; and describe the net direction of the route when leaving the segment.

Table 7-4 – Checklist concerning specifications of audio instructions provided at segments in railway stations

Category	Implementation	Reference	Status
Audio instructions provided at segments in railway stations	Describe the start of a segment	11	M
	Enable the location of the segments	11	M
	Describe the location of the segments	11	M
	Describe the proximity of adjoining segments	11	M
	Describe the type of the segment	11	M
	Describe the size of the segment	11	M
	Describe the next direction of the route when leaving the segment	11	M

7.5 Mobile application features

Specifications of audio instruction communications from an inclusive audio-based network navigation system (IABNNS) that are delivered through a mobile app are described in clause 12 of [ITU-T F.921]. The observed test outcomes and the results of evaluations (including verdicts) shall be filled in on the corresponding checklist see Table 7.5.

Table 7.5 provides a checklist of conformance requirements regarding the specifications of audio instruction communications delivered through a mobile application (see clause 12 of [ITU-T F.921]). To conform to [ITU-T F.921], audio instructions delivered through a mobile application must: use a notification alert before an alert or instruction; provide user preview; enable user replay; enable user search by dictation; and use a journey completed notification alert.

Table 7-5 – Checklist concerning specifications of audio instruction communications from an IABNNS that are delivered through a mobile app

Category	Implementation	Reference	Status
Audio instruction communications delivered through mobile app	Use a notification alert before an alert or instruction	12	M
	Provide user preview	12	M
	Enable user replay	12	M
	Enable user search by dictation	12	M
	Use a journey completed notification alert	12	M

Appendix I

ITU-T F.921 conformance checklist

Columns "Status" in tables described below show requirement levels of elements/attributes for reference. Mandatory elements/attributes are shown "M", optional ones are shown as "O" and conditional requirements are shown as "C".

I.1 Format of provision of directions checklist

Table I-1 – Checklist concerning the format of provision of directions

Category	Implementation	Reference	Status	Support	Remarks
Approach to provision of directions	Clock face approach	8	C*1		
	Degree approach	8	C*1		
	Proportional approach	8	C*1		
	Orthogonal approach	8	C*1		
	Allocentric approach	8	C*1		

NOTE – At least one approach is required.

I.2 Components of an audio instruction checklist

Table I-2 – Checklist concerning components of an audio instruction

Category	Implementation	Reference	Status	Support	Remarks
Components of an audio instruction	Verbs	9.1.1	M		
	Orientation information	9.1.2	M		
	Direction information	9.1.3	M		

I.3 Audio instructions to be provided at specific landmarks, features and objects checklist

Table I-3 – Checklist concerning audio instructions to be provided at specific landmarks, features and objects

Category	Feature, landmark or object	Implementation	Reference	Status	Support	Remarks
Specific landmarks, features and objects	Entrances and exits	Utilize the most accessible entrance and exit	10.1	M		
		Allow users to choose their entrance and exit	10.1	M		

Category	Feature, landmark or object	Implementation	Reference	Status	Support	Remarks
		Provide information about the type, size and opening configuration of doors	10.1	M		
		Provide information about the position and type of door opening furniture and operating controls	10.1	M		
	Pathways	Use the most accessible pathway	10.2	M		
		Allow users to choose pathway	10.2	M		
		Provide information about the type and size of pathway	10.2	M		
		Inform users of any curve in the pathway	10.2	M		
	Decision points	Provide instructions at all decision points	10.3	M		
		Utilize the most accessible decision points	10.3	M		
		Allow users to choose their decision points	10.3	M		
		Provide information about the type, size, and configuration of decision points	10.3	M		
	Tactile walking surface indicators	Provide instructions for all walking surface indicators	10.4.2	M		
		Utilize the most accessible route of walking surface indicators	10.4.2	M		
		Provide information about the type, size and configuration of the walking surface indicators	10.4.2	M		
	Escalators	Enable the user to locate the escalator	10.5	M		
		Describe the proximity of the escalator	10.5	M		
		Describe the moving direction of the escalator	10.5	M		

Category	Feature, landmark or object	Implementation	Reference	Status	Support	Remarks
		Describe the number of escalators in any group	10.5	M		
		Describe the moving direction of each escalator in a group	10.5	M		
		Describe the location of the handrail	10.5	M		
		Where appropriate, state the side of the escalator where travellers stand	10.5	M		
		Describe the relative width/length of the escalator	10.5	M		
		Describe the next direction of the route when leaving the escalator	10.5	M		
		Proximity of an escalator given in an audio instruction 6 ± 1 m from the escalator	10.5	M		
	Stairs	Enable the user to locate the stairs	10.6	M		
		Describe the proximity of the stairs	10.6	M		
		Describe the direction of the stairs	10.6	M		
		Describe the number of steps	10.6	M		
		Describe the location of a landing within a flight of stairs	10.6	M		
		Describe the location of handrails	10.6	M		
		Where appropriate, state the side of the stairs travellers use to move up and down	10.6	M		
		Describe the relative width/length of the stairs	10.6	M		
		Describe the next direction of the route when leaving the stairs	10.6	M		
		Proximity of a staircase given in an audio instruction 6 ± 1 m from the first step	10.6	M		

Category	Feature, landmark or object	Implementation	Reference	Status	Support	Remarks
	Lifts	Enable the user to locate the lift	10.7	M		
		Describe the proximity of the lift	10.7	M		
		Describe the numbers of lifts	10.7	M		
		Describe the location of call buttons outside the lift	10.7	M		
		Describe the size of the lift	10.7	M		
		Describe the location of call buttons inside the lift	10.7	M		
		Indicate which button to operate to get to different levels	10.7	M		
		Describe the next direction of the route when leaving the lift	10.7	M		
		Proximity of a lift given in an audio instruction 6 ± 1 m from the lift	10.7	M		
	Ticket control gates and barriers	Enable the user to locate the gates and barriers appropriate to the direction of travel	10.8	M		
		Describe the numbers of gates and barriers	10.8	M		
		Describe the size of the gates and barriers	10.8	M		
		Describe the next direction of the route when leaving the gates and barriers	10.8	M		
		Describe proximity of gates and barriers given in an audio instruction 6 ± 1 m from the gate or barrier	10.8	M		
		Enable users to be directed to the widest accessible gate	10.8	M		
	Platforms	Enable the user to find the platform	10.9	M		
		Describe the proximity of the platform	10.9	M		

Category	Feature, landmark or object	Implementation	Reference	Status	Support	Remarks
		Describe the type of platform	10.9	M		
		Describe the numbers of platforms	10.9	M		
		Describe the size of the platform	10.9	M		
		Describe the size of the gap between the platform edge and the rail-mounted vehicle	10.9	M		
		Describe any difference between the length of the rail-mounted vehicle and the platform	10.9	M		
		Describe the next direction of the route when leaving the platform	10.9	M		
		Describe proximity of a platform given in an audio instruction 6 ± 1 m from the platform	10.9	M		

I.4 Specifications of audio instructions provided at segments in railway stations

Table I-4 – Checklist concerning specifications of audio instructions provided at segments in railway stations

Category	Implementation	Reference	Status	Support	Remarks
Audio instructions provided at segments in railway stations	Describe the start of a segment	11	M		
	Enable the location of the segments	11	M		
	Describe the location of the segments	11	M		
	Describe the proximity of adjoining segments	11	M		
	Describe the type of the segment	11	M		
	Describe the size of the segment	11	M		
	Describe the next direction of the route when leaving the segment	11	M		

I.5 Specifications of audio instruction communications from an IABNNS that are delivered through a mobile app checklist

Table I-5 – Checklist concerning specifications of audio instruction communications from an IABNNS that are delivered through a mobile app

Category	Implementation	Reference	Status	Support	Remarks
Audio instruction communications delivered through mobile app	Use a notification alert before an alert or instruction	12	M		
	Provide user preview	12	M		
	Enable user replay	12	M		
	Enable user search by dictation	12	M		
	Use a journey completed notification alert	12	M		