Review of last workshop

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World Health Organization
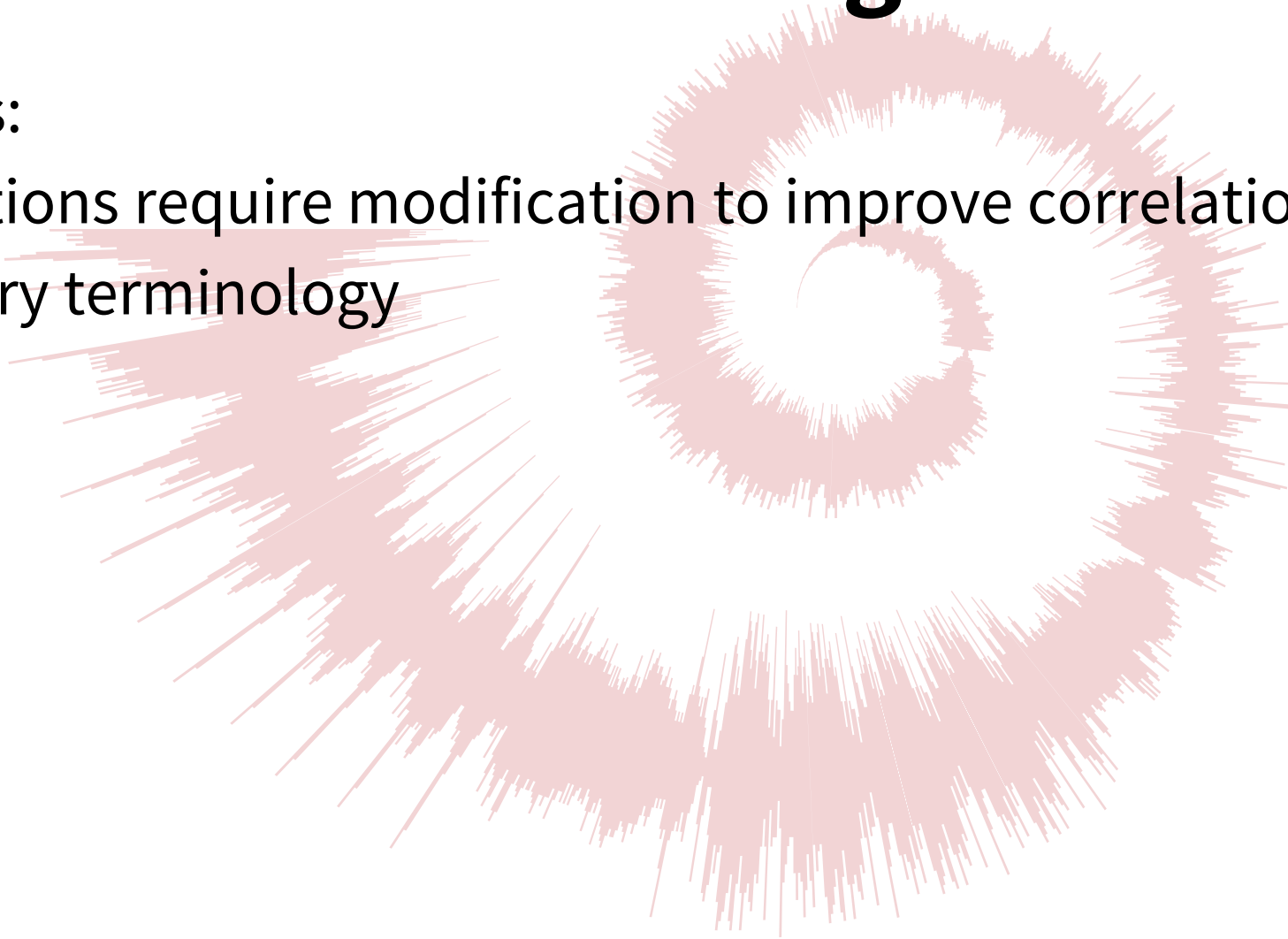
Comments made during last workshop (summary)

Comments made during last workshop

Definitions:

- Definitions require modification to improve correlation to industry terminology

Comments made during last workshop

Types of gamers:

- Definitions of different types of gamers should be considered

- The standard should distinguish types of players

  - Casual

  - Regular

  - Professional/esports

Comments made during last workshop

Video game system block diagram required:

- Updated video gaming device block diagram required
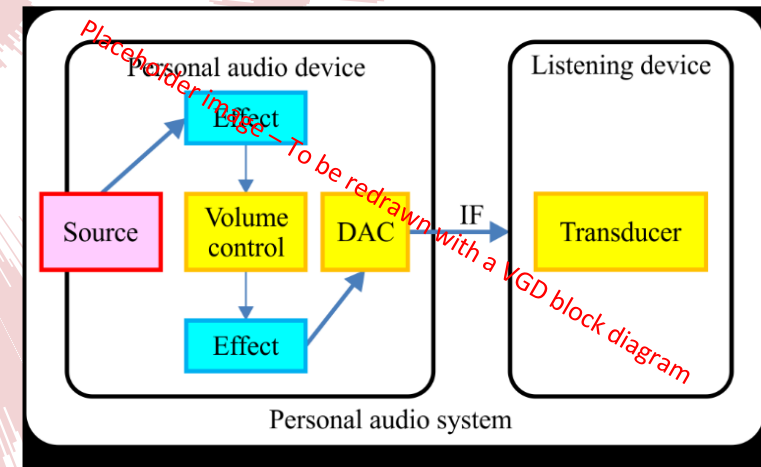 *(as per H.870 and personal audio system)*

Figure 6- Architecture of a personal audio system

Comments made during last workshop

Video game warning messaging:

- Beware of overload fatigue

- Early game screens are "valued real estate"

VIDEO GAME   LOAD SCREEN

| Safe listening warning

Video gaming can a source of unsafe listening, which can lead to permanent hearing damage, especially when combined with other listening activities.

The World Health Organization (WHO) has established a safe limit of 80 dB for 40 hours a week for adults, and 75 dB for children. This safe limit halves for every 3 dB increase (equivalent to a few increments on a typical volume control).

Watch out for the signs of hearing damage:
 • Ringing or buzzing in the ear after gameplay
 • Loss of hearing sensitivity after gameplay
 • Recommendations from family and friends to turn the volume   down

For more information, visit listensafe.org

Comments made during last workshop

Safe listening features in their draft form were:

- Questioned in terms of intrusiveness

- Questioned for games of quiet nature, or without audio at all

- Questioned in terms of how prescriptive in nature they should be written within the standard (Prescriptive vs. outcome based)

  - Some opinions were expressed that feature examples be moved to appendix as examples only; manufacturers should determine the method to improve listening safety.

Comments made during last workshop

Safe listening features:

- Recommendation of a 'Safe/safer listening' mode preferred over inclusion of detailed specific individual features

- Headphone safety mode (when headphones are detected, the overall volume should be reduced) should only exist as a hardware feature

Comments made during last workshop

Dosimetry:

- Generally accepted as the ideal solution to include on video game play hardware – but difficult to implement

- There was an inconsistency between the draft standard for video gaming and esports and H.870 with regards to how a volume reduction would occur if dosage was exceeded (a cue to action should be presented to the end user when sound exposure is exceeded).

Comments made during last workshop

Dosimetry:

- A loudness unit-based approach should be considered for gameplay software.

- A potential safe listening standard for video games could utilise a Loudness Unit based approach similar to ITU BS.1770, EBU R128 and Sony ASWG-R001 which use LKFS/LUFS

  - LKFS = Loudness k-weighted relative to Full Scale

  - LUFS = Loudness Units relative to Full Scale

Comments made during last workshop

Esports:

- Protection of hearing during esports live events is difficult to include in this standard
- If games and video gameplay devices adhere to a safe listening standard, this should be sufficient

Summary of changes to current draft standard

Summary of changes

Format changes:

- Visual imagery and samples moved to appendix
- Safe listening features for hardware and software reversed in order
- Background added for video gameplay software
- Textual health information has been moved to its own section (10.)

Summary of changes

Definitions modified and amended based on previous workshop

For example:

- Gaming → gameplay
- Gamer → game player
- Video game hardware → Video gameplay device
- Creation of Multi-purpose gameplay device to refer to PCs and mobile devices

Types of gamers now classified in <u>three</u> ways: casual, regular and esports players

Summary of changes

Safe listening features (gameplay hardware):

- Dosimetry notification behaviour closely resembles H.870, with a cue to action now present when exposure is exceeded.

- Notification events for sound allowance exceedance expanded to consider alternative ways a video gameplay device may be able to deliver information, and consequences of "do not disturb" modes.

- Audio device compensation/headphone safety mode now exists as a hardware gameplay device feature.

Summary of changes

Safe listening features (gameplay hardware):

- Some features removed that were deemed potentially unachievable, redundant or overly prescriptive.

- Where appropriate, these features will be adapted and used as guidance as potential case scenarios within an appendix

 - For example, "enhanced volume limiting"

Summary of changes

Safe listening features (video gameplay software): maintained but modified

Rationale:

- It is key that a safe listening compliance pathway is included for game developers to make their game title safer for gamers

- This is especially important for PC environments where hardware level features such as dosimetry is much more complex to achieve than gameplay consoles.

- There was a strong preference for software (volume control) features from interviewed gameplayers and esports professionals.

- Some of these features are already available on leading game titles.

ACCESSIBILITY OPTIONS

Subtitles	‹ ›	Off
Voice Chat	‹ ›	▬▬▬▬ 10
Mono Mix	‹ ›	Off
Mono Mix Balancing	‹ ›	▬ 0
Tinnitus Relief Filter	‹ ›	Off
Tinnitus Relief Filter Frequency	‹ ›	5kHz
Colourblind Mode (Dynamic Racing Line)	‹ ›	Off

ACCESSIBILITY OPTIONS

Manage which accessibility settings are enabled within the game

SUBTITLES

Allows you to specify if the game will display subtitles.

LANGUAGE AND AUDIO

Music Volume	100%

Dialogue Volume	100%

SFX Volume	100%

Speaker Configuration	Headphones

Night Mode	OFF	ON

Menu Narration	OFF	ON

Menu Narration Volume	100%

Menu Narration Speed	1.00x

Tinnitus Effect	OFF	ON

Summary of changes

Safe listening features (video gameplay software):

- During the previous workshop, Loudness Units relative to Full Scale, or LUFS) was suggested as an alternative indicator for loudness if dosimetry was not available.
- A safe/safer listening mode has been proposed which correlates a block of features based on the loudness measurement a game title has been mastered to (measured in LUFS).

Summary of changes

Safe listening features (video gameplay software):

- Audio device compensation/Headphone safety mode has also been included as a software feature (and is not required if the game title is intended to be played on a system that offers an equivalent feature).
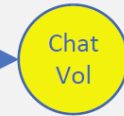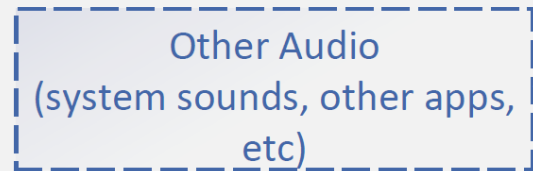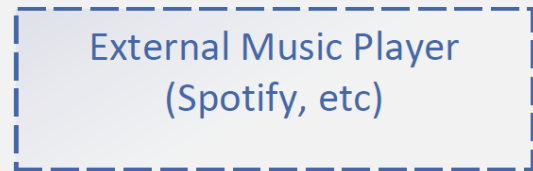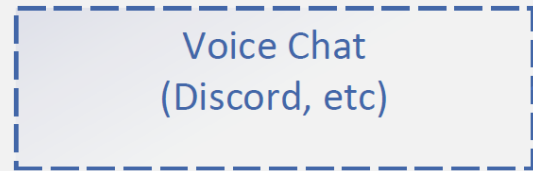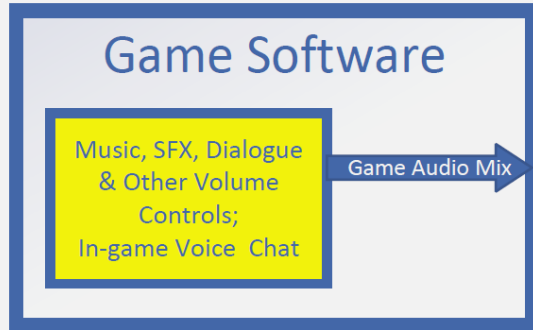
Summary of changes

Esports

- Specific safe listening features for esports contexts have been removed.

- In its current state, the draft standard only provides guidance for live audience members, and a limit to onstage sound levels (100 dB $L_{AEQ,15min}$)

Document review

Thank you!

Video Game System

Game Software

Music, SFX, Dialogue & Other Volume Controls; In-game Voice Chat

→ Game Audio Mix →

Game Vol

Voice Chat (Discord, etc) → Chat Vol

External Music Player (Spotify, etc) → Music Vol

Other Audio (system sounds, other apps, etc) → Other Vol

+ → Master Volume → DAC

Note: In-game voice chat may be provided as part of the game itself, or via an external app such as Discord
Game provided music may be supplanted by the player via an external music player, such as Spotify

Listening Device

Device Vol → Transducer

(Headphone Status)

Note: Location of Master Volume, DAC or other controls may depend on user configuration. For example, DAC and/or Volume control may be located in the Listening device (such as USB headphones, or analog headsets with hardware volume controls).
Headset Status may or may not be available
In some cases, the make/model headset may be known, such as some Sony headsets connected to Playstation 5. But generally the Listening hardware is unknown

Video Game Listening Ecosystem