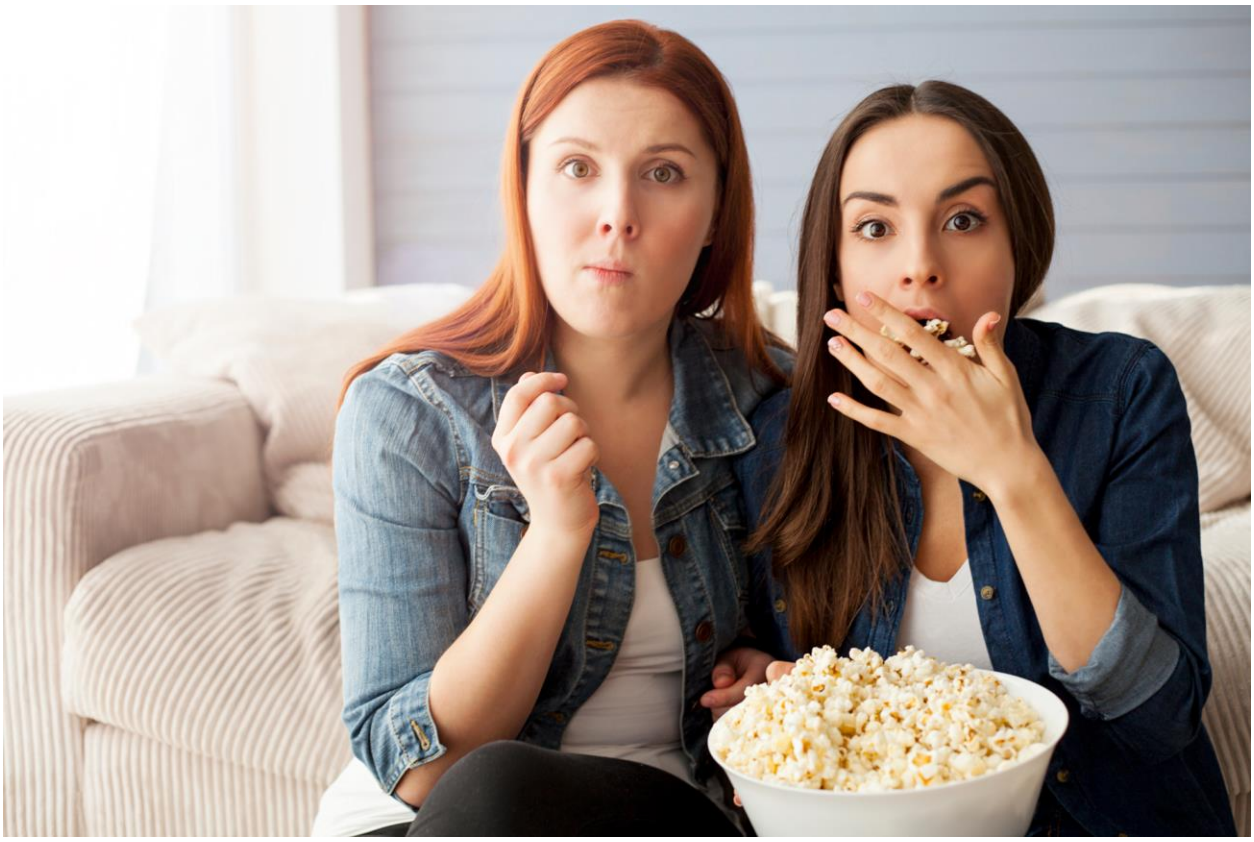
AEL DATA SERVICES LLP

THE ULTIMATE GUIDE TO ACCESSIBILITY

CHAPTER 2- AUDITORY IMPAIRMENTS



Introduction

Did you know that over **466 million people** in the world have a hearing impairment, hearing loss, or deafness?

(Source: W.H.O)

It is difficult for people with hearing impairments to understand digital media that rely only on sound to convey information.

The Covid-19 made everyone embrace the work-from-home culture resulting in universities also conducting online classes. Even the popular teleconference software Zoom released an update in 2021 that could auto-generate captions for calls. This update was helpful for people with auditory impairments as they had hassle-free access to captions in videos. Although **AI-generated captions are not perfect**, it is still an improvement over not having captions at all.

A pandemic should not be the only reason to provide videos with captions. Our handbook is designed to help understand the issues faced by people with hearing disabilities and how to make digitally accessible content for them.

What is hearing loss and its types?

W.H.O defines it as more than 35 decibels(dB) hearing loss in the better ear or more than 20 dB in both ears. Let us understand the different types of hearing loss.

Sensorineural hearing loss

This happens due to the damage to nerves in the inner ear. It can occur due to noise damage, ear injury or in many cases due to old age.

Conductive hearing loss

This happens due to obstructions in the middle or outer ear that prevents sound from entering the inner ear. It occurs usually due to tumours, excessive earwax or fluid in the path of the inner ear.

Mixed hearing loss

As the name suggests, it is the confluence of sensorineural and conductive hearing loss.

Tinnitus

Tinnitus is a symptom directly indicating that your auditory system needs an immediate checkup. People with tinnitus usually hear buzzing or ringing noises that aren't caused by external sources.

How to make digitally accessible content for people with auditory impairments?

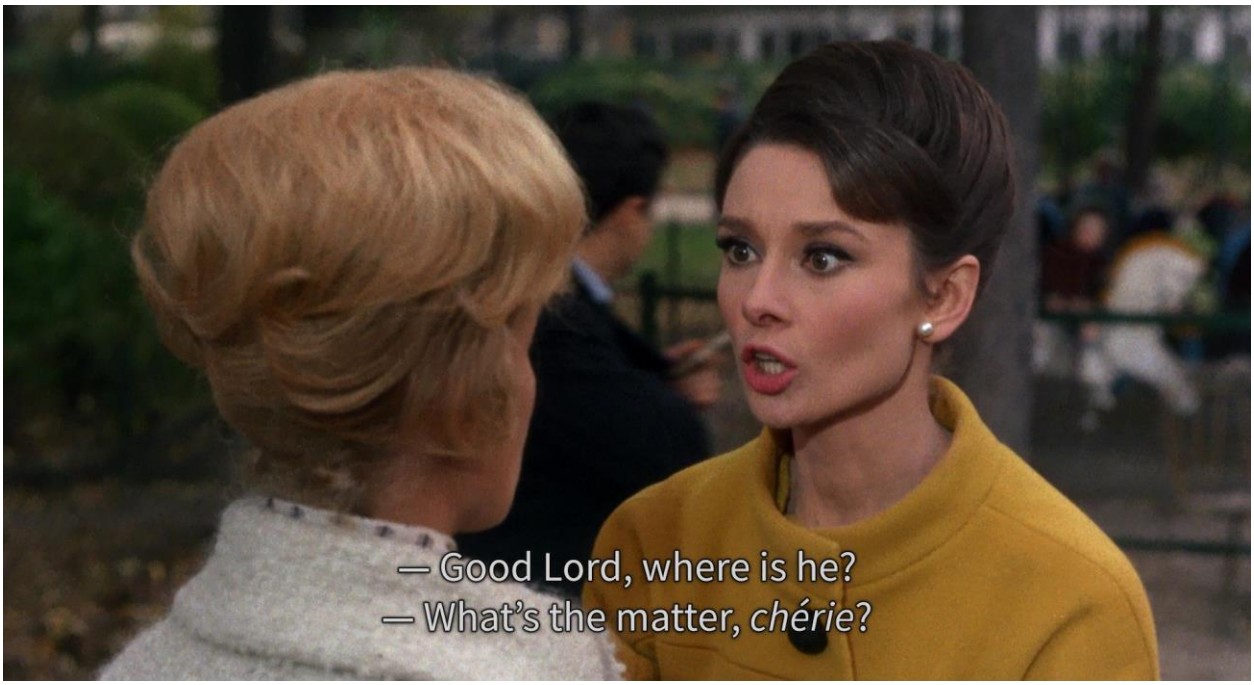
It can be made accessible with the use of the following processes-

Subtitles and Closed Captions

Any website containing videos, audio or content that relies only on audio to convey information is a hurdle for people with hearing disabilities. Before we proceed, it is important to distinguish between subtitles and closed captions.

Subtitles and closed captions are often used interchangeably, however, they are not the same.

Subtitles



Subtitles assume that the audience has no problem hearing the audio but can't understand sentences. This happens due to two reasons

- The people in the video speak a foreign language
- The viewer is not well-versed with that language and relies on subtitles to understand every dialogue.
- Subtitles can be turned on and off.

Closed Captions

Closed Captions(CC) are intended for hearing impaired people. They provide a text description of what the viewer would otherwise be hearing.

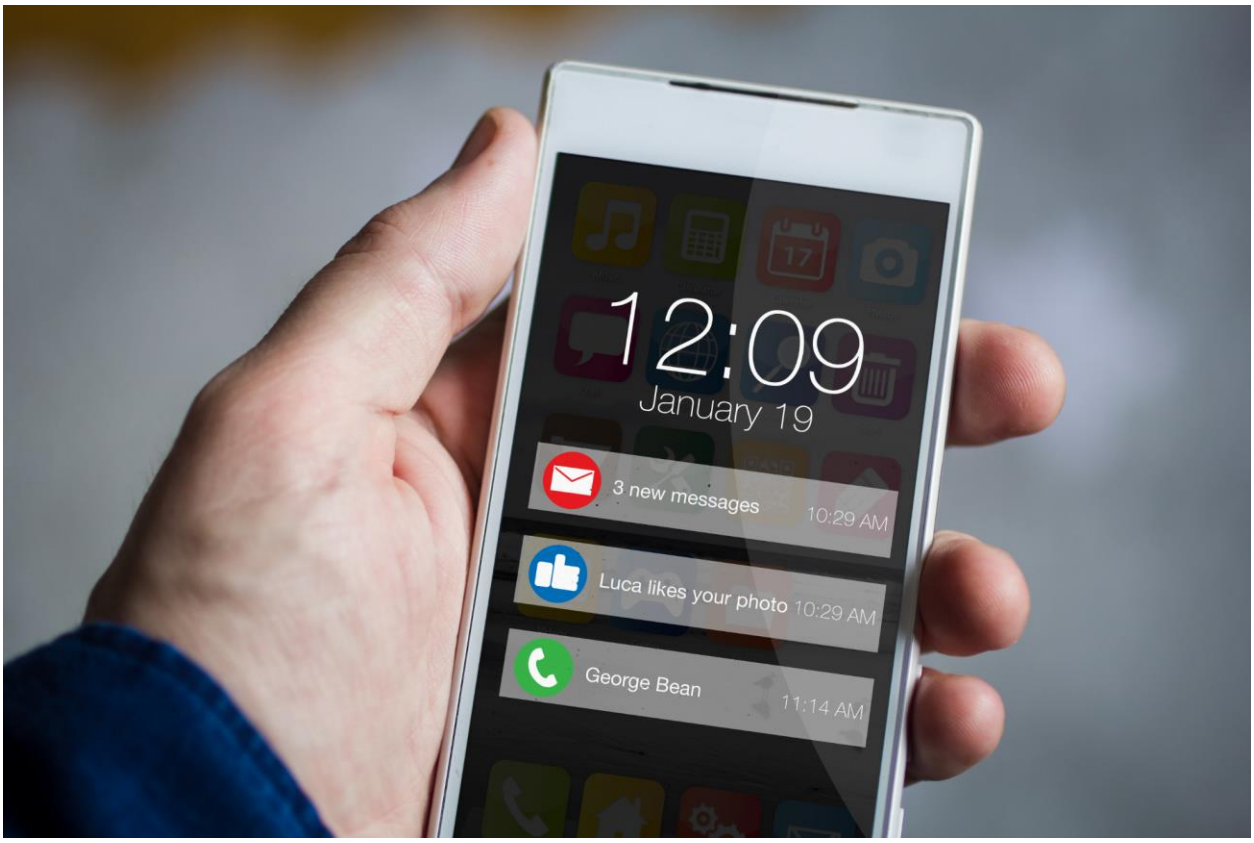
Captions differ from subtitles in four ways

- It also identifies speakers
- Captures non-speech elements such as gestures, facial expressions, body movements, etc.
- Captions move up when visual elements in the movie obstruct them
- Captions can be easily turned on/off on most platforms

However once captions are embedded into a video, they cannot be turned off. Subtitles and captions also help you to watch videos in crowded places without using headphones.

In a nutshell, subtitles are primarily used for translating foreign languages whereas CC is used in understanding the content without audio.

Visual Notifications



Any push notifications from offers, product launches to grand events from your web or mobile application should not depend on just audible alerts. To make it accessible for the widest audience, apps and websites should have both audio and visual notifications.

Sign Language

Although captions and even subtitles help people with hearing impairments to understand your content, sign language elevates the user experience.

Many deaf people actually prefer sign language over captions because for most of them it is their first language. People who are born deaf usually learn American Sign Language (ASL) before they do any other language.

Most ASL speakers can read and write English, but only as their second language. Reading captions would be like asking a native English speaker with French as a second language to suddenly switch to reading in French. Just as some things may get lost in translation with the sudden switch in languages, ASL speakers may prefer sign language to captions.

Sign language is also used to convey the context in a message that may not be captured with captioning text. For example, there is always a sign language interpreter during live news broadcasts from natural disaster weather alerts, to government COVID-19 announcements, and even in live music concerts.

This form of communication is usually used for live telecasts in conjunction with auto-generated captions. Proofread captions are usually provided with recorded versions of the event and have higher accuracy than auto-captions. Some users may actually prefer captions, so as a media provider we shouldn't have to choose between either of the formats, but try to provide the user with as many choices as possible.

To summarize, ensure that your website is accessible to a deaf audience, by including at least one of the following options for your digital content, if not all -

1. Subtitles and captions on all the digital media
2. Visual and audio notifications
3. Sign language interpreters in all the videos