

AUDIO MODALITIES

Audio modality is a term used to describe the medium of communication or expression related to auditory information, which includes various forms of audio including speech, music, environment sounds (or soundscapes), and various types of audio signals.

The audio modality is important as it manifests in different elements of communication, navigation, entertainment, and other areas of human experience.

TYPES OF AUDIO

The Audio Modality is composed of various elements, which are key components of its various categories.

SOUNDS

Sound is a form of energy that travels through waves in various mediums (such as air or through metal - as in strings on a violin or guitar). Often this energy causes the object (or individual atoms) to vibrate, causing particles to vibrate and produce sound. Key characteristics of sound include Frequency (the rate at which the sound waves vibrate across the medium), amplitude (the strength and intensity of sound waves, often perceived as volume or loudness), wavelength (the distance between points of a sound wave), and timbre (the quality or character of the sound that distinguishes it from other sounds; oftentimes, timbre is determined by the harmonics or overtones present in the sound wave). Perception is another important element of sound, as some sound is perceivable while others are not. Humans only hear within a very fine range of frequencies, whereas others can be detected by other creatures or by machinery.

SPEECH (or Spoken language)

Speech refers to the process of communicating through various sounds. Speech involves the production of vocal sounds and articulations through vocal organs (such as the mouth, the tongue, the teeth, the vocal cords, and the lungs). Key elements of speech include phonetics (the physical properties of sounds), articulation (how sounds are formed through the vocal tract to produce words and other sounds necessary for speech), prosody (the rhythmic and intonational elements of speech including pitch, stress, and timing), and language structure (involving the arrangements of words and phrases to form meaning). Speech can be both natural and artificial.

MUSIC (Sounds Organized by Pitch, Tone, Rhythm, and Tempo)

Music is a form of art and cultural expression which uses organized sound patterns. Key characteristics of music include melody (a sequence of notes that form a tune or theme), harmony (a series of notes or chords that support the melody), rhythm (a pattern of beats or pulses in music which create a sense of time and structure), Timbre (the quality of sound produced by a variety of different instruments or voices), form (the structure or organization of the music - including its organization into verses, choruses, and various sections both instrumental and/or vocal), and expression (how the music is performed or recored with various elements of dynamism or tone or mood - example: a song may be soft or loud, peaceful or aggressive, etc.).

SOUNDSCAPES (or Environmental Sounds)

Soundscapes refer to acoustic or digital environments which are perceived by humans. Typically a soundscape encompasses all of the audible elements of a particular location and includes both natural and human-made sounds. Note: Environmental sounds can be both natural and artificial. Some key elements of soundscapes include: Ambient Sounds (e.g., sounds of wildlife, weather conditions, noises, and anthropogenic, or human-made sounds, like machinery, etc.), Sound Sources (dominant sources of sound within soundscape including biologicals (e.g., animals), geophysical (e.g., wind, water, etc.), and anthropogenic (e.g., vehicles, construction machine, music, etc.)). Another significant aspect of Soundscapes is temporal and spatial variation. Sound changes based on location, time of day, position, season, and many other factors. For example, a city park may sound differently in the morning, at night, and during the day.

AUDIO AND RHETORIC

Audio has a definitive impact on human emotions and sensory perception. Music can both be heard and felt. Furthermore, music can evoke various emotional states including: happiness, sadness, relaxation, tension, drive, etc.

As a result of the influences of music on emotion, audio plays an important part in advertising, storytelling, and therapeutic applications (such as entertainment and therapy, as in music therapy). Similarly, soundscapes can be therapeutic as well (e.g., imagine the sound of rain or the waves crashing on a beach).