

The importance of understanding sound characteristics in designing augment immersive experiences

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1. Introduction

The use of sound and music to augment the art experience is a practice long time in place. A clear case of this was when music started being part of early films, directors used music books “that provided many different pieces of music with different moods that could cover almost any dramatic situation”, to enhance the experience of films. (Davis, 1999)

Immersive is an experience defined as: seeming to surround the audience, player, etc. so they feel completely involved in something. (Cambridge, 2016) This would mean that after said experience the participant comes out feeling as if he/she came back from a voyage.

This paper is a demonstration of how basic sound properties could provide tools to design the sound for experiences that would help the participants have a more robust immersive experience.

2. Practice

I have experience using basic sound designing as panning, equalizing and compression. The application of the variants possible within these properties have made it possible to conglomerate tracks sound within one and hence emulate landscapes. I've also used the sound quality of fatigue that is when “steady sounds made of pure tones begin to sound quieter after we have been exposed to them for a while”. (Farnell, 2010)

In my last piece (*A Day in the Andes*, 2016), my intention was to give sound a bigger role. The main goal was to play with sound cognition through identification, this is when comparisons are made to sounds stored in long – term memory (Farnell, 2010). So instead of giving the spectators a full detail image, code was used to create abstract representations of the visuals. This allowed the use of imagination and recognition from the viewers, in order to generate a personal interpretation of the sound and visual as a unit. Also instead of having a stereo output, I used a four channels output, where the pan of the tracks were front left, front right, back left and back right.

3. Results

The positive results of using sound to enhance visual experiences has so far been notable¹.

Being so unique, sound designing requires a lot of factor to be taken in account in order to bounce the final track (size, space, amount of spectators, equipment being used, story-telling). It is also fundamental to know the cultural-scape of where the experience will be shown. Since the tracks I've produced involve religious chants, or tracks that wont cause the same effect between different cultures and someone might rightfully feel offended by its usage.

Besides the technical proprieties of sound, there is a vast array of characteristics related to sound that could be studied regarding the design of immersive experiences. These possibilities are found on the listeners side: Studying how sound is perceived, the cognitive processes it undergoes, and other sound behaviors that generate emotional changes in the spectators.

“We cannot ignore the deep emotional impact of sound and its potential effect on the well-being of the human mind and body, nor the fact that this clearly overlaps with artistic goals.” (Farnell, 2010)

¹ <http://www.gandradep.com/a-day-in-the-andes/>
<http://www.gandradep.com/andean-reflection/>
<https://itp.nyu.edu/thesis2016/project/gabriel-andrade>
<http://www.gandradep.com/ambientarte-2010/>

4. Exploration

The next sound qualities I would like to study and start using in the sound design for experiences are:

- Signal listening or anticipatory listening, meaning the way individuals expect to listen to certain sounds which “involves some remarkable neural and physiological activity”. (Farnell, 2010) I would like to explore the possibility of

playing with common scenarios and the assumption of the sound associated to them.

- The use of onomatopoeia or alliteration for experience stories which “ consist of the direct vocalization of sounds”. (Farnell, 2010) This is normally used in studio to communicate ideas. Would be interesting to see the reaction of people when trying it in an installation.
- Also the Gestalt Effects.

“The “phi phenomenon”...is our ever-present tendency to organize disparate, granular events into a coherent and sensible whole. Bare in mind that during this process the brain plays tricks on us, so what we “perceive” isn’t always what we “hear”, which is no always what is actually there”. (Farnell, 2010)

5. References

Cambridge University Press. (2016). Retrieved from <http://dictionary.cambridge.org/us/dictionary/english/immersive>

Davis, R. (1999). Complete Guide to Film Scoring. *Early Films and Music: The Silent Movies*, 1, 15 – 23.

Farnell, A. (2010). Designing Sound. *Psychoacoustics*, 6, 77 – 114.