Naman Bhushan, Paul Lee

CMPM 152 – Spring 2021

Final

- What are you trying to sonify? Why?
    - We sonified the success of various video game publishers over time, as indicated by each publisher's global sales and average critic ratings by year. We were interested in seeing, or hearing, how successful or unsuccessful different publishers were compared to their competitors.
- Discuss your process of data organization and formatting.
    - From the original datasheet, we derived the 14 "top" publishers, which we identified by factors including number of games published, general recognizability, and personal preference, out of the 582 originally listed. We made a separate csv file for each publisher, and summed the sales & averaged the ratings and scores for each year the publisher released a game.
- Justify your parameter mappings. For each data parameter, explain why it is best suited for the selected sonic feature (be as specific as possible).
    - We used Loudness to sonify Global Sales, Tempo to sonify the Average Critic Score, Timbre to represent each Publisher, and Spatialization to represent when a publisher hit their minimum and maximum global sales.
    - Although loudness is on the lower part of the sonic features list, we decided to use it to sonify Global Sales, which we considered to be the most important parameter to convey, because we could use the extremes of loudness. When a publisher is doing really well compared to its competitors, that publisher's sound both figuratively and literally overpowers its competitors.
    - We used tempo to sonify the average critic score because a faster playback speed makes a sound more noticeable, while a slower playback speed almost hides the sound. This maps perfectly with what the average critic score represents; when a publisher's sound is more noticeable, so is that publisher

in that year. If a publisher is selling a lot in a particular year and is getting good reviews, then both parameters combined would make it even more noticeable.

    - We used timbre to sonify each publisher by giving each publisher its own sound. Each sound comes from a popular game released by that publisher, and thus is a perfect representation. We also play appropriate sound effects when a publisher reaches their best and worst year.
    - We used spatialization to represent a publisher's minimum and maximum sales with appropriate game sound effects. We didn't want this information to overpower any of the other sounds being played, but also show it inherently, as we automatically associate progression as left-to-right. The worst year a publisher does is shown in the left ear, and the best in the right year.

- Discuss the resulting auditory scene:
    - How do you expect a listener to perceive the overall sound?
        - We expect the cocktail party effect to work to highlight the "important" sounds, which would represent the publisher that is doing the best at that moment in time, whilst still being able to perceive the other sounds. We expect this to happen through our filtering of sound, letting the important sound play as is, and muffling other sounds. The audio cues that pop up when a publisher would be compared to the sounds that are currently playing, and most importantly, the loudest one.
    - What is/are the most important data parameter(s) you are trying to convey, and how does this appear in the audio?
        - The most important parameter we are trying to convey is which publisher is doing the best. This appears in the audio by being the sound that sticks out the most. The audio we want to highlight is noticeably louder than the other sounds playing.
    - How are each of the sonic elements arranged so they can be meaningfully perceived and interpreted?

        - Loudness and Tempo are both used to highlight the publishers that are doing the best, and this information is naturally understood, as the loud and fast sounds are representative of doing better. We were, however, careful about not letting the highlighted sound be too overpowering, as we wanted the other sounds to still be noticeable. Using different sounds for each publisher helps the highlighted sound stand out uniquely, as it is more interpretable than the others which are muffled down, and the spatialization used doesn't overpower or detract from the main sounds we want the listener to hear.
- How is the sonification advantageous over other means of data presentation?
    - This sonification is advantageous over other means of data presentation because it allows the audience to perceive more information at once than if they were to receive the same information through some visual medium, such as a graph. Where in a visual presentation the audience would have to limit their focus on a few data points at once, our sonification allows for the listener to receive all of the data points at the same time, while still being able to understand the information we are trying to convey.
- Are there challenges in perceiving/interpreting your sonification? How much learning do you think would be involved in understanding it?
    - One challenge we faced was ensuring the audio wasn't too cluttered. Because we had 14 different sounds playing at once, we wanted to be careful about making sure each sound wasn't detracting from the overall sound. In regards to learning, because the sounds we chose come from games released by each publisher, there would be a lot of learning to do if the listener weren't familiar with the sound. While anyone who is familiar with Grand Theft Auto would recognize the "Wasted" sound effect we used, if the listener did not know the game was published by the publisher Take-Two, they would not be able to inherently understand what the sound means.
- In what setting would the sonification be most effective? Who would benefit from the sonification?

- This sonification would probably be most effective in a presentation of sorts, or any other setting where information is being given to an audience. Anyone who would be interested in the history of video games would benefit from this, such as students in a Game Design program, or employees of video game publishers who want to see how their company has done over time.