

Project Deliverable 5

Research questions:

- Will the player be able to differentiate between different sound tactics?
- Will the sonifications be difficult to decipher in real time?
- Are the sounds distinct and easily memorable/aesthetic to the ears?
- Can multiple sonifications be sent simultaneously to the player?
- What is the player's overall opinion of the sonification?

Participants: My simulator will require soccer players with a minimum of street level experience with the sport. However, I will choose people who have actually played the sport since I have friends who still play club soccer for their respective schools. They are more than willing to help me test out my simulator at any time to which we will meet and practice social distancing protocols during the process.

Measures:

- Quantitative

- Time elapsed during pre-evaluation
- During evaluation, number of correctly identified tactics
- # of correctly identified simultaneous tactics
- Tactic used the least
- Use of custom tactics (# of custom, and what it is)

- Qualitative

- Any outspoken comments in regards to the simulation (direct or indirect)
- Patterns amongst all participants

Protocol: -

Introduction: The evaluation will begin with a preprocessing explanation and demonstration of the simulator. The system designed is meant for soccer players and soccer fans to simulate a live game in session by providing real time feedback of in-game events. You initially start by selecting your game (game1, game2, or game3, where "PAUSEALL" will stop the event. Next, we will make a custom setting using the tactic, timestamp, location, tag, flag, priority, and note fields within the UI (User Interface). When finish, the player then selects "PUSHTHESEINPUTS". The user can also create their own json file once they have all the satisfied data inputs.

- Consent: Consent will be received from the participants after I explain their role and purpose for evaluating my sonification system. We will be moving through a couple of tests to help me better understand the pros and cons of my simulator and system. The volume levels will be adjusted to your liking as I'm looking for feedback more so on sound quality and sound relevance, rather than loudness. At any point where you are feeling discomfort, please tell me and we will make necessary adjustments/accommodations. Your answers and feedback will all be recorded but your identity will remain anonymous. You may take a break anytime you want during the pre-processing phase and the evaluation phase. Consent will be received verbally and written on a document.

Each test below will be timed and recorded from start to finish

- Training Phase: This will begin with basic wizard of oz techniques. I will do a demo run of my simulator coordinated with a live soccer video (same video will be used for each participant for sake of consistency). I will input the commands as I see them live and then simultaneously simulate the video with the sonifications to see if it was accurately depicted, listing all the hits and misses. I will limit my time to 5 minutes to not prolong the experiment as this is just a demonstration.

After the training phase, we will then switch roles and begin the first main test. The purpose of the main test is to determine whether the sounds are easily differentiable and if they are appropriate for the designated tactic. We will focus only on the main tactics given and the information required will be recorded. For time's sake, we will do 10 minutes for the main test. As the tactic is demonstrated, I will mimic the tactic with a designated sound as the participant relays the tactic to me.

The next test will be used to watch the video and identify any additional tactics used that I missed that could be listed amongst the others (and eliminate any that is not used as much if any). This will focus on any other tactic besides what is listed. The same process will be followed except we will be using the custom json maker for this portion. Once finish, the relative data will be collected and recorded (what additional tactics were used, the amounts, etc.).

The final test will be similar to the first main test except it will focus on the sounds and whether the participant can distinguish and identify multiple cues and list multiple cues from video. In this part we will do a 5-minute split of time on the video, where the first 5 minutes is dedicated to identifying multiple cues visually and verbally listing them and the next 5 minutes matching multiple cues with their respective tactics.

Each test will be followed by a series of questions to help answer some research questions and gather useful statistical data:

- Which sound tactic(s) were most pleasing to the ear?
- Which sound tactic(s) were least pleasing to the ear?
- Which sound tactic(s) needs to be present?
- Were there any sound tactics that lacked connection to the actual tactic?
- Is there a better way to present the sound of the tactic appropriately?
- Can two or more sounds be played at the same time?

Final comments / concerns:

- I will finalize the overall experiment with general questions for the participant to answer:
- Please discuss the difficulty of the task.
- What aspects were too hard to understand or were frustrating?
- Did you find the system to be too overwhelming?
- Would you see this system providing use in a studio, or would it be too distracting?

- Did you enjoy the sounds of the sonification?
- Was it annoying or too intrusive?
- What were the most helpful parts of the system? Least helpful?
- May rephrase or follow up as clearest aspects and most confusing
- Please provide any additional insights or comments you have about the system.

Debriefing: Finally conclude by thanking participant

Analysis:

Analysis of the data will begin with the calculation of central tendency measures for each of my quantitative and qualitative data taken during the evaluation phase of my sonification. Each of these measures includes the pre-evaluation phase (time elapsed), overall response time to tactics, correct mapping of tactics, and use of alternative tactics. Patterns will be searched for amongst participants for each of these measures in hopes of finding any positive/negative trends throughout this project. This will help further understand the complexities of my sonification along with the cognitive load of the system. The percentages of correctly identified tactics will help me, and the player know if they can distinguish the differences between each tactic (and whether the sounds are even appropriate). Lastly, relevant qualitative data will be noted especially if there are common comments made amongst participants.