

Localization Test Instructions

v0.3 – June 12th, 2017

- The purpose of this test is to evaluate various methods that we have been developing to produce spatial audio.
- This test will be conducted in a listening room, where you will be seated in front of an array of loudspeakers and given headphones.
- There will be one (1) training round followed by five (5) rounds of testing, with optional short (2 or 3 minute) breaks in between each round for you to stand up and take off the headphones.
- In each round, you will be presented with fourteen (14) test samples.
- Each sample is a short (~ 2 second) clip of a man speaking, which may appear to be emanating from one of the loudspeakers.

*Note that during this test, the loudspeaker array will be OFF.
All sounds that you hear will be coming from the headphones.*

- The apparent direction of the sound may change for each sample, as it will be selected at random.
- It is your task to identify the direction from which the sound is originating, and turn your head to face it.
- At the beginning of the test, you should face straight ahead, and press the “Re-Center” button to align the system to your position.
- Press the “Play” button in the graphical user interface (GUI) to play each sample.
- Once you are confident that you are facing the direction of the sound, you should then record your head’s angle (obtained from the head tracker) by pressing “Capture” in the GUI. Caution: please **hold still** until you see the captured azimuth show up on the screen; this process may take up to one second.
- You may repeat each sample any number of times until you are confident in your decision.
- Tip: before playing each new sample, turn your head to face straight ahead and “Re-Center” the system.
- You may adjust the volume using the “Gain” slider on the right-hand side of the GUI.
- Once you have completed judging all of the samples, press “Save and Exit” and ask the researcher to proceed to the next round.
- The goal of this experiment is to measure the directions in which people tend to localize each sound.

Coloration Test Instructions

v0.2 – June 7th, 2017

- The purpose of this test is to evaluate various methods that we have been developing to produce spatial audio.
- This test will be conducted in a listening room, where you will be seated and given headphones.
- There will be one (1) training round followed by three (3) rounds of testing, with optional short (2 or 3 minute) breaks in between each round for you to stand up and take off the headphones.
- In each round, you will be presented with nine (9) test samples and a reference sample.
- Each sample is a short (~ 3 second) clip of noise that has been processed by some method, which may have changed the *tonal coloration* of the sound.
- The method being employed may be different for each sample, as it will be selected at random.
- It is your task to judge the extent to which the tonal coloration of each test sample *differs* from the reference.

*Note that other aspects (e.g. location) of the sound may change also.
Your rating should be based on differences in tonal coloration ONLY.*

- At any time, you may press “Play Reference” in the graphical user interface (GUI) to hear the reference sample.
- To hear a given test sample, press the “Play” button in the column corresponding to that sample.
- You should then record a rating for each sample via the GUI, with a rating of 100 indicating that the sample that is *indistinguishable* from the reference, while any rating less than 100 indicating that the sample differs from the reference. Lower ratings should be given to samples that differ from the reference to a greater extent.
- You may repeat each sample (and the reference) any number of times until you make your decision for that round.
- You may adjust the volume using the “Gain” slider on the right-hand side of the GUI.
- Once you have completed judging all of the samples, press “Save and Proceed” to proceed to the next round. For the final round, the button will read “Save and Exit.”
- The goal of this experiment is to determine the extent to which each processing method introduces tonal coloration.