Cage Off: Two Implementations of 4'33" in ChucK

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```
// connect audio input to output
adc => Gain unity => dac;

// advance time by 4'33"
4::minute + 33::second => now;

// disconnect unit generators
adc =< unity =< dac;
```

```
// advance time by 4'33"
4::minute + 33::second => now;
```

Fig. 1. (left) Implementation A and (right) Implementation B

Abstract

At this point, a philosophical question arises as to which implementation more authentically embodies the spirit of John Cage's *4'33"*[1]. The one-line version (Implementation B) could be considered the most minimal version possible—perhaps the "Platonic ideal" of *4'33"* as expressed in the strongly-timed syntax and semantics of the ChucK programming language[2], in so far as the above program is the passage of a specific duration of time "in silence"; the absence of unit generators implies a zero-amplitude audio output. The computer musician writing/running this code draws parallels to the pianist sitting in front of a piano, which is not only capable of making sound but also carries strong cultural expectations to make sound, and yet the pianist chooses, in this case, to proactively not make sound. This implementation, therefore, could be an embodiment of *4'33"* from the point of view of the performer(s) onstage.

On the other hand, Implementation A, which contains not only Implementation B in its entirety, but also goes to lengths to connect the live audio input (`adc`) to the audio output (`dac`), foregrounding not the sound made by the software program, but rather the incidental sounds of the room. This is fitting of *4'33"* in a different sense. In Cage's original work, the incidental sounds of the room that accompanies the absence of instrumental sounds onstage, are an essential part of the piece itself, inviting audiences to contemplate the nature of musical performances as well as what may constitute a performance in the first place. Under this interpretation, Implementation A nods to the acoustic, social, and cultural contexts in which the piece is performed.

1 Project Description

(See Abstract.)

2 Technical Notes

(See Fig. 1)

3 Ethical Standards

(See Section 1.)

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References

[1] John Cage. 1965. *4'33": Tacet, Any Instrument Or Combination of Instruments*. C.F. Peters Corporation. https://books.google.com/books?id=3oQ4AQAAIAAJ

[2] Ge Wang, Perry R Cook, and Spencer Salazar. 2015. Chuck: A strongly timed computer music language. *Computer Music Journal* 39, 4 (2015), 10–29.