Chapter 6

A Combined Model for the Structuring of Computer Game Audio

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ABSTRACT

This chapter presents a model for the structuring of computer game audio building on the IEZA-framework (Huiberts & van Tol, 2008), Murch’s (1998) conceptual model for the production of film sound, and the affordance theory put forth by Gibson (1977/1986). This model makes it possible to plan the audio layering of computer games in terms of the relationship between encoded and embodied sounds, cognitive load, the functionality of the sounds in computer games, the relative loudness between sounds, and the dominant frequency range of all the different sounds. The chapter uses the combined model to provide exemplifying analyses of three computer games—F.E.A.R., Warcraft III, and Legend of Zelda—. Furthermore, the chapter shows how a sound designer can use the suggested model as a production toolset to structure computer game audio from a game design document.

INTRODUCTION

Computer game audio is an often neglected area when analyzing and producing computer games (Cancellaro, 2006; Childs, 2007; Marks 2001). The same seems to be the case when analyzing or producing movies (Murch, 1998; Thom, 1999). There is a general lack of functional models, for the analysis as well as the production of computer game audio, even though some good examples of functional models, such as Sander Huiberts and Richard van Tol’s (2008) IEZA-framework (Figure 1), are available. The IEZA-framework is also discussed in Droumeva (2011).

In this chapter, we use the IEZA-framework in combination with Walter Murch’s (1998) conceptual model for film sound (Figure 2). Why combine these two different areas, that is, a model concerned with computer game audio and another with film sound? As Huiberts and van Tol (2008) have noted, film sound is a “field of knowledge that is closely related to game audio”
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Figure 1. Huiberts and van Tol’s IEZA-framework for the analysis and production of computer game audio into which we have added frames for the different categories. Adapted from Huiberts and van Tol (2008)

(98) conceptual color model (Figure 2), which spans from language that clearly has relations to speech (encoded) via effects to music (embodied). With such a typology rather clearly differentiating the 3 basic entities of film sound from each other, we might jump to the conclusion that film sound is fairly easy to create and that computer game audio could be modeled, more or less, on the practice and theories of film sound. Since we only have 3 basic categories of sounds that can be used and combined to create a sonic environment, how hard can it really be? However, film sound is more complex than this initial typology suggests and we address this in this chapter. Furthermore, computer game audio works under quite different conditions than film sound does: film sound is fixed, stored and played linearly. This does not, however, mean that sound in movies needs to be synchronous with the visual, since it might be narrating at a different level that does not have its basis in the present image (Hug, 2011; Kubelka, 1998; Pudovkin, 1929/1985). Computer game audio, on the other hand, is dynamic and stored as a resource for the player to use in a non-linear fashion. An invariant set-up of sounds is stored in a database, but the use of objects that would...
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