Sound Effects for Live Theatre*

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2020-06-08

Abstract

How to produce sound effects for live theatrical performances on a small budget, for example for a Community Theatre production.

Keywords: Sound Effects, Community Theatre.

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1 Motivation

Low-budget live theatre uses recordings for music, rather than live musicians, and leverages the music playing equipment (speakers, amplifiers, a CD or similar music player) for sound effects. The sound effects can be recorded on a CD or USB stick, and played when needed during the performance. This is adequate for background sounds, but the timing is not good enough for a spot sound, such as a slap. In some cases these spot sounds can be made by the actors or a backstage person using objects, but for others, such as a gun shot, this is undesirable. In addition, background sounds are severely constrained: if an automobile must start its engine while the background sounds are playing, you need a second CD player.

Computers have become inexpensive enough in recent years that it is reasonable to consider using one in place of the CD player during a live performance. With suitable software, a computer can play both background and spot sounds, and mix them together as needed.

I will describe how to use the sound_effects_player component of the show_control project to produce the sounds needed for a live theatre production.

2 What You Will Need

To run the sound_effects_player you will need a computer running the Fedora distribution of GNU/Linux. The computer must also have a sound card so it can output sound. Sound_effects_player supports up to eight channels of sound, but two are usually enough for Community Theatre productions.

To get the sound_effects_player software, download the source tarball from github. It is a component of the show_control project, at this URL: `https://github.com/ShowControl/sound_effects_player`. Sound_effects_player also requires libtime, another component of show_control. Details are in the `.spec` file. Alternatively, you can install the sound_effects_player from copr, using john_sauter / sound_effects_player.

Once you have the software installed you can look at the sample configuration and the first three examples to learn about the mechanics of the sound_effects_player and see how to make simple sounds.

3 A Show with Complex Sound Effects

Let us suppose that you have been asked to provide the sound effects for a show with a challenging set of sound effects. In addition to the usual pre-show music and environment sounds during each scene, there are also a variety of spot sounds that must be played when an on-stage action happens, and some sounds must come from the back of the audience.

The XML files developed in this paper are included with the distribution of the sound_effects_player as example 4.

In order to make sounds come from behind the audience you have borrowed two self-powered speakers on stands and positioned them at the back of the theater. You are

using body microphones on the actors. These microphones go through the audio mixer and the sound is sent equally to the two front speakers, so it seems to the audience that it coming from the center of the stage. The sound effects enter four channels of the audio mixer from the computer running sound_effects_player. In order to get four sound channels out of the computer you are using a USB sound device such as the M-Audio Fast Track Ultea 8R. The audio mixer routes the four channels from the computer directly to the four speakers.

The first thing we need in any sound project is the project file.

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