Project Title: LightsaberFX

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Abstract

LightsaberFX aims to create an interactive experience by generating lightsaber sound effects according to the user's awesome bladework. By attaching accelerometers to a lightsaber, we can acquire movement data to send to a sound bank. We assign various acceleration and duration thresholds to particular sounds created by analog oscillators, filters, and modulators, and use a series of comparators and filters to determine which motion the user executed based on the signal received from the accelerometer. In order to for the sounds to be appreciated, we will also need to design a power supply and an amplifier. Ultimately, we aim to develop a wireless system that sends motion data through Bluetooth or through RF signals to the sounds system, and also allow for the capability of multiplayer participation by adding effects prompted by two lightsabers hitting each other. If time permits, the option to expand the effect bank with lights and increasingly complex sounds exists. Through this project, we hope to aid the user in realizing their inner lightsaber warrior at present, in a galaxy not too far away.