Matt Papi, Jon Stritar

Abstract

The MPEG Audio Layer 3 encoding (MP3) is a dominating force in the digital music world. Due to legal restrictions with the MP3 format, many people are turning to a free and open alternative known as Ogg Vorbis. While software Vorbis decoders have recently become commonplace, hardware decoding options are still scarce and underdeveloped compared to those of MP3. We will create a Vorbis decoder that fully implements the Vorbis I specification in hardware. The decoder will initially read Vorbis files from a preprogrammed Flash ROM. A front-end module will parse the file headers and pre-process the data packets, and a back-end module will transform the packet contents to a PCM audio data stream. If time permits, we intend to develop our decoder into a complete Ogg Vorbis player with standard playback controls, possibly adding an equalizer and an interface to read files from a SecureDigital card.