

Digital Player Piano

Stephen Chait, Josh Runge

Abstract

This project will be similar in function to a player piano, taking a written input and converting it to musical notes. More technically, the project will take an image of a piece of sheet music and play the music via the AC97 codec on the 6.111 labkit. The sheet music will be limited in complexity to the level of a simple piano score. An image of the sheet music will be recorded by a digital camera and stored in memory for processing. Image processing techniques will be used to detect features of the image, such as notes, bar lines, and accidentals. The image processing will generate a series of notes, which will include information about their frequencies and durations. This information will drive an audio processing component that will play the music via the AC97 codec on the labkit.