

FFT and Filters for Audio

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For my 6.111 project, I will be designing a Fast Fourier Transform (FFT) to be used specifically with audio. Many modern devices use the FFT to transform continuous signals into discrete signals that can be processed by computers. Most programming and hardware description languages have a generic Fast Fourier Transform as a built in module. My goal is create one that will work with the specific ranges seen in audio inputs. Once an FFT has been designed, I plan to add the ability to apply different filters to the sound wave. The outputs will be displayed using a simple spectrum analyzer taken with permission from Prof. Terman, and the outputs may also be listened to using a speaker or headphones.