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Checklist for 6.111 Final Checkoff:

Bradley:

- FFT and IFFT – takes input from AC97 and creates frequency data for manipulation; will be tested by running sine wave through FFT – IFFT modules with audio out = audio in.
- Bucketizer – takes frequency data from FFT and produces the square magnitude of the frequency, as well as a bucket index (0-10) dependant upon the range of samples from the FFT
- Equalizer FSM – created to increase or decrease the magnitude of a certain set of frequencies, result will run through the IFFT and audio out will prove the difference in sound.
- (if time permits) creation of different filters to provide for more audio processing (echos, filters, increased pitch or frequencies, etc.)

Stephen:

- Store a current value for the intensity of each bucket frequency, and update it regularly (at least enough so that the visualizations seem to be in real time)
- Create a module which is able to take these as input and output a visualization based on them
- Create a way to switch between visualizations
- Work out the memory timing so that visualizations can write to the display memory, and regularly update
- (if time permits) Create multiple visualizations

Aston:

- Accurately convert from 16 bit RGB color to YCrCb for TV output
- Display a representation of contents of memory (RGB color data) to screen
- Demonstrate keyboard input for changing equalization settings
- Create a graphical user interface for equalization changes